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BEHIND THE MEDICAL MASK - Medical Technology and Medical Power

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A B S T R A C T

This thesis explores the role of technology as a resource in the structure of medical domination of birth and death, stressing technology's pivotal position at the intersection of control and uncertainty.

Based in Intensive Care and Obstetrics (between which the health status of patients diverges sharply), it notes the convergence of technology used and examines the contest for control within the labour process. This includes using technology to facilitate a 'standardized' birth or death; a more retrospectively defensible event. In general, the 'burden of proof' is concluded to lie with those wishing not to intervene rather than the reverse.

Given the (cognitively male) biomedical model, mind-body dualism is an assumption embedded in medical technology: this is especially significant in childbirth, where it fractures the woman's ontological experience of giving birth. Its positivistic and pathological emphasis is associated with a reification of processes and a commodification of their 'solution': which becomes located in technology. It is argued that commodification in health provision will increase with the further application of market principles to the NHS.

It is concluded that 'uncertainty', endemic to medicine and a possible challenge to control, is proactively manipulated and pressed into the service of medical domination. Technology is used to mask uncertainty and aid the medical profession's control of patients/relatives, and subordinate work groups.

A technological fix may be viewed as the opposite to re-discovering societal dreams and myths, however, more paradoxically, it is concluded that dreams and myths have become attached to technology. Thus, the symbolic role of technology is: to provide hope of continued survival (or cure), the veiling of existential uncertainty and the offer of 'absolution' - should all efforts fail (a freedom from guilt in the assurance that "everything possible was tried"). Its 'heroic' project is viewed as an existentially 'masculine' health provision and 'feminized' health care is posited as an alternative.

"Don't be afraid, you can do it. It's your baby. Not ours, not the doctors', not some strange product of medical knowledge, technique, or power. . . . There seemed to be no end to the extent to which a baby could belong to someone other than its mother. And these baby-snatchers, dressed in white, these mysterious figures who talked out loud and made the decisions - what were we hiding behind our gauze masks? Fear of death, fear of women? Can't we find another way? Are we really so reassuring? How can women actually believe that we know more about these things than they do? So now, take off the masks! Let the roles be reversed!" (Odent, 1984, pp.111-113 - extract from a section by Dominique Pourre, a Midwife at Pithiviers)

"(there should be a). . . recognition that dying and death are not separate states of being, but phases of the process of living and life." (Feifel, 1963, p.14)

INTRODUCTION: Why don't more women enjoy childbirth?

During the last five years I have had two babies. One birth involved a considerable amount of obstetric technology (1984); the other virtually none (1987). Following C. Wright Mills (1959, p.216) who maintained: ". . . you must learn to use your life experience in your intellectual work: continually to examine and interpret it." and Liz Stanley (1984) in her assertion of the need to construct an 'intellectual autobiography' in adopting a reflexive approach to sociological research, I propose to give some account of these birth experiences. Both births took place in the hospital where I later conducted the maternity part of this study (1989/1990). As well as feeding into my views and experience of birth and technology, they give some flavour of the hospital, as it impressed itself on me on the two occasions when I was a patient there.

Half way through my first pregnancy, despite the resistance of my G.P., I changed the booking for the birth to a different hospital because a particular Consultant had been recommended to me by friends as less prone to using routine technological intervention. This involved being 'booked' at a hospital twenty miles from where I live and in a different Health District, rather than the local hospital two miles away.

The local hospital had a reputation for submitting all women delivered in the Consultant Unit (and my age precluded my admittance to the G.P. Unit) to internal electronic fetal monitoring with its invasion of the body and necessity for immobility. I was already concerned about the

possible over-dependence on technology that could arise in high-tech medical situations and research in Intensive Care had taught me that the interpretation of electronic monitor readings were not always clear-cut and that such readings were sometimes spurious and best not acted upon. The hospital also routinely intervened in other areas of childbirth, such as induction of labour which was routinely carried out if the woman failed to go into spontaneous labour within two weeks following her confinement date. I was not opposed to Obstetric technology per se, but I was opposed to its routine use where no specific indication was present. I considered its routine use to present a potential iatrogenic hazard (doctor caused disease or trauma, see Illich, 1976) to both mother and baby rather than representing a preventative measure. At the same time, I wanted, as far as possible, to experience birth with as little external interference as possible.

After a very straight-forward pregnancy, my daughter's birth, in the event, proved to be highly interventionist. The baby was in a posterior position (her backbone was facing my backbone) which meant that the labour was very long and very painful. Although still in early labour (not "established labour" when the uterine contractions tend to regularize in frequency), I had already lost a night's sleep, the contractions being too painful to doze through. On the second day in hospital I was asked whether I wanted the labour accelerated by rupture of the membranes; I said that I did not.

Prior to the second sleepless night my membranes had ruptured spontaneously and the pain had become even more intense. I spent most

of that night wandering the corridors of the Delivery Suite and Observation Ward, stopping to breathe through contractions. Outside there was torrential rain which seeped in through the glass roofs of the covered walkways. I had two minimum doses of Pethidine (a synthetic narcotic) and managed to doze for a couple of hours. Although I had not wanted Pethidine, the midwife told me that there was nothing else she could offer me so early in labour and so I took what was on offer. After the Pethidine had been administered it was a routine procedure that I be connected to an external electronic fetal monitor to record any effect on the fetal heart rate (since Pethidine makes the baby sleepy and may depress its heart-rate).

On the morning of the third day the Registrar said that because my cervix was still only 3.5 cms dilated (10 cms. represents full dilation), hospital policy (1984) dictated that it would be necessary to accelerate the labour with Syntocinon (a synthetic form of oxytocin which is produced naturally by the pituitary gland and promotes uterine contractions). The view at that time was that babies had to be delivered within 24 hours of the rupture of membranes because of the risk of infection. Given my exhaustion and despair (at my apparent absence of progress), a lack of continuous one-to-one support from a midwife, together with the intense pain of a 'posterior labour', at that point I requested an epidural anaesthetic (lumbar epidural anaesthesia administered through a catheter inserted into the extradural space outside the last of the three membranes which cover the spinal cord). Acceleration would add to the pain and I was, as I told the Registrar, 'at the end of my tether both physically and emotionally'.

After the epidural was fitted (this takes about 10-20 minutes), the remainder of the labour was spent in a light, airy delivery room, eating lemon sorbet, discussing the midwife's marathon running, my research, the medical student's training (most of which had been at a hospital at which I had previously carried-out research) and the student midwife's forthcoming marriage. I had a drip of dextrose (sugar in water - used if an epidural-induced fall in maternal blood pressure needs to be rapidly reversed), a Syntocinon infusion and a fetal scalp electrode on the baby's head (to continuously monitor her heart-rate which might have become depressed if my blood pressure had fallen due to the epidural - internal electronic monitoring is 'compulsory' in this hospital once an epidural is fitted); my contractions were also monitored electronically. The best strategy seemed to be to detach myself as much as possible from this situation. The epidural worked very well (which is not always the case), the pain disappeared and we had a rather pleasant, sociable time. Within four hours I was fully dilated. Since I was anaesthetised I had no urge to push and could not in any case feel where I was pushing. Two hours later a short forceps delivery was performed because the baby was diagnosed as distressed and my blood pressure had risen. Despite the alleged fetal distress (based on monitor readings), Jennie was in excellent condition when she was born and given a high Apgar Score (all babies are scored along certain dimensions relating to colour, respiration, and so on, immediately after birth and then once more in the following few minutes - this is a means of codifying and standardizing neo-natal observations) but she had a graze on one side of her face from the forceps and a mark on her scalp where the electrode had been attached to it. (I was alarmed at the

delivery to hear that this was only the second time that the attending Houseman had wielded forceps - he was supervised by a Senior Registrar). I also had a post partum haemorrhage, losing two pints of blood and requiring a transfusion.

Despite this, my feelings were all I hoped they would be at the birth of my baby. Prior to this experience I had thought that if the labour was difficult I would not enjoy the actual birth. However, I felt I had been consulted and informed throughout the labour and that nothing had been done without the midwifery and medical staff first discussing the matter with me. So that, despite such traumatic circumstances and being in lithotomy (prone with legs in stirrups) I wrote of my daughter's birth, just after the event:

"Finally I was told to push on the next contraction - and the head was born. 'Do you want to feel the head?' Ann, the midwife asked. I wanted to and she guided my hand down to a wet, furry, hard dome. Another push to assist the pull of the doctor, and she was born. This small creature was put on my tummy and covered with a towel. She was crying and looking around, super alert with fear and shock. My heart went out to her and I immediately started to talk to her, trying to comfort and reassure her. Everyone and everything else receded into the distance. It was an amazing moment. I was so absorbed with this small being that I forgot to ask the sex. Ann suddenly said 'Oh, we don't know what it is'..."

Ann stayed quite a time beyond the end of her shift to ensure that I was alright and visited me the following morning.

Afterwards, I did not feel defeated or that I had failed because I had had a technological birth. On the other hand, I did not exactly feel that technology had served me well. Posterior labours can be notoriously long and painful, especially when a prima gravida (first-time mother) is involved, since first labours, in any case, tend to be longer than subsequent births. I wonder now if the course of events might have been different if I had had an experienced midwife to support, comfort and inform me through the long and painful latent phase of labour. Apart from the occasional use of Pethidine, this hospital tends to leave mothers at this early stage rather to their own devices (this is reflected in my research data as well as my own experiences). This partly seems related to staff shortages and partly to the fact that they feel there is little they can do (i.e. physically) at this stage. Added to which, staff change every eight hour shift. This means that one sees a lot of staff, particularly a lot of midwives during a long labour. One is also shunted around the hospital depending on the adjudged stage of labour and whether and what type of pain relief is required. If complications appear to be developing this will also affect the location. I was moved from the Antenatal Ward to the Observation Ward to the Antenatal Ward to the Delivery Suite, back to the Observation Ward and then back to the Delivery Suite (see Rosengren and Devault, 1963, on the use of space in the Obstetric Hospital). On the Antenatal Ward because I was in considerable pain, I found the lack of privacy distressing. Although an epidural might be thought appropriate to a posterior labour, it does tend to feed into what MacLennan (1978) has called a 'cascade of intervention' and, ironically, one might speculate from two diametrically opposed positions either

'What a good thing I was in hospital if I was going to have such a difficult labour, culminating in a post-partum haemorrhage' or, 'if I had been at home in the security of my own environment with a great deal of continuous emotional support and practical information I might never have become involved in the spiral of intervention which just may have contributed to the haemorrhage in the first place.'

My desire to do a PhD grew out of Jonathan's birth and the period of hospitalisation immediately before it. Thirty-two weeks pregnant, my blood pressure rose. Thereafter, it fluctuated significantly but was always higher than average. Elevated blood pressure during pregnancy can be (in association with other symptoms) a sign of pre-eclampsia (eclampsia is a life-threatening condition involving maternal convulsions). It may also be associated with growth retardation in the baby. I had no other 'symptoms' of pre-eclampsia but in order to monitor my blood-pressure (and urine for protein), I spent five of the last eight weeks of pregnancy as an in-patient. From the time my blood pressure rose, I always saw the same Registrar at the Antenatal Clinic (this was an individual initiative by the Registrar and is not hospital policy). My file was, therefore, marked 'see M'.

I had long felt it might be fruitful to compare the dynamics of technology use in Intensive Care and Obstetrics. I even discussed this proposition with some of the Ward staff when a patient. The response was largely positive and I considered the possibilities interspersed with finally reading long-possessed copies of 'The Hobbit' and 'Lord of the Rings' (I eventually went into labour on page 753 with 300 pages to

go! Babies never come to order, as was underlined time and again when I actually started the research).

My G.P warned me that with raised blood pressure I might be induced at 38 weeks, given an epidural to depress my blood pressure and a forceps 'lift-out' to avoid the 'stress' of pushing. In the event, I progressed to a full term 'Normal Delivery' of a 8lb 14 oz baby, born after a 27 hour labour with Entenox (Gas and Air) for the last four hours, supplemented by TENS*.

I 'wrote-up' the birth shortly after leaving hospital. I have tried to select some extracts which reflect something of the environment in which I was labouring, attitudes to technology, attitudes of the staff and some of the ways I saw technology fitting into my birth experience:

. . . About 11 p.m. (Sunday) the twinges began to regularise and occur at 10 minute intervals, increasing in strength as they did so. I spent the night wandering along the long central corridor between my bed in the ward and the T.V. room. I dozed but the contractions were too strong to actually sleep through. The midwife in charge that night seemed unconvinced that I was actually in labour. I knew I was. She left me to my own devices (which I felt alright about). She seemed rather unsympathetic and this culminated in her giving me two

Paracetamols (she was on duty again when I returned to the Ward with my

* (Transcutaneous Nerve Stimulation, a non-invasive technique, controlled by the mother. Provides a counter stimulus to labour pain. Four pads on the mother's back are connected to a small battery-driven output unit, strapped to the waist. This does not restrict mobility. When activated, the pads produce a soft pulsating throb, concentrated on the nerves serving the uterus. The intensity is adjustable and can be boosted during contractions.).

baby: "the Paracetamols didn't work", I said to her). She didn't give me an internal (I felt obsessed to know whether I was progressing quicker than last time) but was sufficiently 'put-out' by her apparent indifference not to ask and I waited for the shift change. . . (Monday) Howard (my partner) and I walked the ward corridor all afternoon, then into the T.V. Room and up and down the adjoining stairs. This eased the contractions. . . I felt quite secure and confident in the hospital environment by this time. After all, I had been there rather a long time! Because I knew so many of the staff they were interested to see that I was in labour and offered encouragement . . . Sister D., in charge that day, advised me to wait as long as possible before going to Delivery; once there, she said they would artificially rupture the membranes. . . Again we saw Dr. M. (the Registrar I'd seen throughout my raised-blood pressure period). . . "Leave it 'til the last minute to go down to Delivery," he said. "Once they get you down there they'll put you on the altar and tie you up to monitors." He suggested I had a bath and that afterwards I start to use TENS (by this time I was 5 cms. dilated). I took my second bath of labour. . . (when I told one midwife that the Registrar had suggested this, she laughed and said, "Oh I expect he was only joking." I knew he was not. Submersion in warm water can be very good pain relief in labour). . . At 8 p.m. I went to Delivery. I was 7 cms dilated. I was greeted by E., a Student Midwife I knew from the Ward who had recently transferred there. On arrival at the Delivery Suite the contractions slowed down (this is not uncommon). E. assisted my midwife until the shift changed at 9.30 p.m. I requested not to be continuously monitored unless there was a specific indication. I was intermittently, externally monitored. . . Until

about 10 p.m. I continued breathing through contractions and using TENS . . . My blood pressure was monitored regularly but did not worsen. . . I sat cross-legged on the delivery table. I found this the most relaxing of the 'yoga' postures I had been practicing. I also knew that an upright posture would help to dilate the cervix by putting more pressure on it. . . . I decided to use 'gas and air' before I perhaps needed to. I felt I wanted to get used to it before the going got really rough. I'd tried it at the Anaesthetics Lecture the previous Monday, so I knew I preferred the mask to the white tube attachment for breathing and I knew what the gas 'felt' like. I knew I should breathe from the onset of the contraction to its peak and then 'come down' on my own breath and the residue of Entenox. They were about to send for the white tube attachment for me 'to bite on' when breathing but I specifically requested the mask. I thought 'biting' was a very bad idea and would introduce tension. A Medical Student (who appeared periodically) said I was the first person he'd ever heard request the mask. He said women generally felt that they couldn't see when using it because it covered part of the face and that they wanted something to bite on, but I wanted to labour with my eyes closed anyway - to concentrate on what was happening to my body. . . . The contractions were now very strong. The Sister Midwife (I still do not know her name) asked me about their strength and then cross-checked again by palpating the uterus manually; she did this despite my being electronically monitored at that time. She then told the Registrar to disregard the contraction readings on the monitor because they were not registering properly and were much stronger than they appeared. . . It became easy to recognise the 'peak' of the contraction, to stop

breathing the gas and air and come down with my own breathing - often with the feeling of riding a roller coaster (another woman later used this analogy to me in describing her labour). Towards the end of second stage the contractions felt more like hugh waves* which washed over me and then carried me back with them into a sea of oblivion. If this sounds 'frightening', it wasn't; it was exhilarating, mysterious, with a sense of the 'self' as merging with something more universal. . . R. (the Student Midwife) massaged my back. I rested my head on her shoulder after some of the stronger contractions. H. (my partner) wiped my face, massaged. I was fed iced-water. The Sister massaged my leg. Encouragement and support flowed. My eyes remained largely closed which meant that although the Delivery Rooms are highly clinical environments I was unaware of this. The lights were turn down. I lay back for the occasional blood pressure reading but knocked all aside to resume my seated posture for the contractions. I felt very in tune with my body, very in control and going out to meet and move with the pain. TENS was woven-in too and all seemed synchronised and in order. Dr. M. appeared; "Do you think you're in control?", he asked, "Yes I think so", I answered. "Well I know so", he said, "I've seen women here screaming the place down with Epidurals in." . . . (He told the midwives they

* "And that's when I became one with the sea. . . It felt so good to let my body go in this sea of sensations. . . the sea (is) interwoven among the infinite strands of space and time which mark Nuria's birth" (Odent, 1984, p.54 - account by 'a mother from Latin America')
"It felt like riding the summer waves at the shore in New Jersey. . ."
(Odent, 1984, p.66 - account by 'a mother from the United States').

would soon be delivering women in baths - they were amused - but water births were being offered when I returned to conduct the research). . . The membranes were artificially ruptured towards the end of first stage (the stage where the cervix is still dilating prior to the second stage of 'pushing') - about 24 hours into the labour, to "quicken it up". This procedure was discussed with me and was the main technological intervention of the labour. I don't remember the contractions being any stronger following the rupture of the membranes. But in quite a short time I was fully dilated, except for an anterior lip (a slight lip on the front of the cervix - if pushed against, this will swell and delay the birth). The baby's head had also not rotated into the face down position, desirable for delivery, he was lying on his side. . . The urge to push was almost irresistible - I constantly felt it would overwhelm me . . . Now encouragement and support became crucial (this for me was the most difficult part of the labour). I lay on my side and panted through contractions. I felt like Ferodo (in 'The Lord of the Rings') resisting the power of the ring - the enticement to slip on the ring became the seduction of pushing. This analogy fleetingly slipped into my consciousness and disappeared again. It was the most enormous mental battle and feat of concentration. I turned the TENS to full intensity, full frequency and permanent boost - like Harry Palmer's rusty nail which he dug into his hand to distract him from 'brain-washing' in 'The Ipcress File'. A counter stimulus even to the point of pain, felt imperative. Anything to distract me from the pressure on my cervix. . . At the same time I started demanding an epidural, insisting "I can't go on like this". . . I knew an epidural at that stage would mean I would have a forceps delivery but I felt that I would soon push

and damage the baby and myself. There then followed what I can only describe as a period of 'stage management' while the Sister and the Dr. M stalled my request. I was told the Anaesthetist had 3 or 4 other epidurals to perform before she could come to me. She was even brought into the room to discuss an epidural with me; she said she would come back as soon as she could. I never saw her again. They were playing for time but trying to see that I didn't get too agitated by just refusing my request . . . The Sister kept regularly examining me but announced, to my despair, that the 'lip' was still there (apparently this went on for about 2 hours). This was the only time I lost faith: faith that the baby's head would rotate (and rotational forceps wouldn't be necessary) and faith that I would have the energy and strength to push him out after all this mental struggle and exertion. . . Eventually I was given the 'all clear' to push. With no pain but great effort and exhilaration I gave birth to him 15 minutes later.* Our baby was handed to us and we were left to discover his sex for ourselves. In reply to my thanks to my midwives and obstetrician, Dr. M. passed the emphasis back to my role, saying "Thank you for sharing it with us."

I regretted I never again saw the Sister and Student Midwife. It seemed strange and unnatural they should have shared one of my most intimate and monumental experiences only to disappear immediately. When I later told Dr M. how much I had enjoyed the birth (apart from the anterior

*I had an intravenous injection of Syntocinon following delivery of the placenta to help prevent haemorrhage. I found this re-assuring as I feared another post-partum haemorrhage."

lip!) he said, "We enjoyed it too, we don't see many 'normal' deliveries." He also told me that an epidural at that late stage would certainly have culminated in forceps and added: "Sometimes the most difficult thing is to do nothing." My Consultant also came to see me. I thanked him profusely. "I didn't do anything," he said. "You did it." In a sense this was literally true. That had been his strength for me. He had not intervened, just monitored me very carefully at the end of the pregnancy. On one occasion when I had been very down because my blood pressure was not falling, he had put this in good common-sense perspective by saying, "No, but it's not going up either!" I could see how it could so easily have been a different 'birth story', given a different policy and approach. I am reminded of Obstetrician Peter Dunn's (1976) remark that: "We must never forget that it takes more experience, more judgement and more courage, often, to stand back and do nothing" (cited in Sally Inch, 1982, p.35).

After the birth I immediately felt I wanted to do it all again. Research was in a sense a way of 'revisiting' the experience but also making more 'sense' of it intellectually. My second birth, in particular, had been a very moving, creative and joyous experience for me; it had also been very empowering. It again made me question the necessity for widescale routine technological intervention in the birth process. I wondered whether many women were being denied the opportunity to experience their own creative possibilities. I wanted to go back and investigate the dynamics of the birth process in this technological setting and ask women how they felt about it. For myself,

I had never experienced such an intense fusion of the mental and the physical as during the labour and birth of my second child.

Much of my previous health research had been in Intensive Care. This had indicated that technically feasible options, such as the surveillance of electronic patient monitoring from a central console or the application of closed-loop systems of drug infusion (where a change in the patient condition triggers an automatic administration of corrective action) had been consciously rejected in favour of a philosophy of bedside nursing (Child, et al 1984, Harvey 1984, Loveridge, et al 1990). Therefore, it appeared, that the technically feasible would not necessarily be adopted but might be mediated by medico-nursing philosophy. It was also apparent that nurses did not view technically derived information uncritically; viewing it in a wider context. I was interested, therefore, in the rationales around technology use in Obstetrics, an area where, in contrast to Intensive Care, the patients are generally in good health.

A PhD also seemed to fit well with two small children - Jono then a few months old and Jennie just three. It promised a great deal of hard work but with autonomy and flexibility, so important with young children. The main problem was: I wanted to get started right away. It took a year to set up. Not only had Jono been born on page 753 (of 'Lord of the Rings') but he'd been born in June, a month too late to submit a proposal! However, thanks to the E.S.R.C. the research soon became viable; in a sense, synthesising two areas of my life: the personal - becoming a mother - and that of the professional researcher.

The disturbance

by Marge Piercy

A baby is crying at a concert.
Down the aisles of the poetry
reading, children run. Folks
scowl at the mother, pretend
collective deafness. Afterwards
they say, "We felt terrible
for you", not, "We will demand
child care next time.

How seldom babies cry
in the university. Where
are they? Why don't fathers
bring them to work in baskets?
Have you ever studied while nursing?
Have you written a speech while cajoling
a baby raging with colic?

A visitor from Alpha Centauri
assumed humans are born full sized
after examining our public places.

Should we really just cram mother
back in the broom closet with baby
and go on with our business, grateful
for all the mothers crouching in closets
with babies chewing and weeping
talking to walls quietly
and disturbing no one else?

from: "Stone, Paper, Knife", Pandora Press (1983).

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CHAPTER 1

Medical Technology and Medical Power: the 'achievement' of control, manipulation of uncertainty and regulation of birth and death

Control is the mobilization of power. Medical power rests on a number of assumptions: the orthodox view that the determinants of health and illness are biological, that medicine is a science untouched by ideology, together with the medical profession's legally sanctioned monopolistic right to practice. Doctors enjoy a high social class status and this is underwritten by the power of gender relations, since medicine remains predominantly a male sex-typed profession.

Doctors in Western society practise on the basis of a biomedical model. This is a positivistic paradigm based on notions of mind-body dualism and individual pathology. In its origins, both methodologically and emotionally, this is a male model of the world (Bordo, 1986). The widespread acceptance of the biomedical orthodoxy has led to the medicalization of increasing areas of social life (Illich, 1976). Over and above this doctors have become imbued with the possession of curative powers out of all proportion with the knowledge and remedies at their disposal (see, Freidson, 1970). They have become, in effect, modern-day priests (see, for example, Szasz 1974; Oakley 1981a; Hart 1985).

Particularly from the 1950's, there has been a substantial proliferation of medical technologies. Notwithstanding any criticisms these have received in the 'quality' media, they have been more generally the subject of 'celebratory reporting' which has de-emphasised their

limitations and often swept under the carpet detrimental side-effects and social implications (Karpf, 1988). The British Medical Association and the Royal Colleges have demonstrated a significant commitment to high-technology medicine. This is reinforced by the domination of doctors from the acute sector over medical decision-making and the fact that it is medical practitioners located in the ultra-scientific specialities who are awarded the most distinction (Bruggen and Bourne, 1976). More generally, doctors are trained to view themselves as scientists and the majority derive the greatest job satisfaction from the scientific and technological aspects of their work (Doyal, 1979). It follows, therefore, that scientific and technical interests, and considerations of prestige and power, lead doctors disproportionately to aspire to high-technology Specialities (McLaughlin, 1974). This technological emphasis is both reinforced and often initiated by capital as represented by commercial firms producing drugs and medical equipment for profit. In maternity care the now extensive use of surveillance and monitoring equipment has been termed "the new order of social control" (Arney, 1982, p.152). Both Foucault (1977) and Arney and Neill (1982) have pointed to the impact of placing the individual in a 'field of visibility' in order to enhance her/his susceptibility to control. This may be achieved both by the continual presence of a professional attendant or from dissection or testing methods employed on the body, but also arises in the use of electronic monitoring equipment which makes visible its inner physiological workings.

Medical technology in this study is examined particularly within the context of the Intensive Care Unit (I.C.U., or Intensive Therapy Unit -

I.T.U., as it is variously known) and the Maternity Hospital. In Obstetrics, male medical practice was from the beginning intimately bound-up with the use of obstetric instruments (see, for example, Oakley 1976, Donnison 1977). In Britain 90%+ of births now take place in Consultant Units and Obstetrics has for the last twenty years represented a high technology area of hospitalized care. In I.T.U. its very *raison d'être* was to provide a concentration of technology, used in conjunction with specialised health care expertise. If there was no high-technology, there would be no Intensive Care Unit.

In the I.T.U. patients are critically ill and, in some cases, dying, whilst in maternity care they are usually in good health. Consequently, those who are cared for in these two areas, will generally vary sharply in terms of health status. There is, however, much commonality of technology (the definition of which is seen to include drug technology), especially in relation to continuous electronic monitoring and the emphasis on pain relief. The latter technologies will, therefore, be a particular focus within this study. Birth and death are biological and cultural events but in modern industrial society they are also technological events.

Technology is a resource within the labour process around which there is a struggle for control. Technology does not determine the social details of its use and outcomes but it does set some limits on the range of options and strategies available to those involved in its operation (its non-use may, of course, be 'achieved' in some cases). Technology, like medicine, is rooted in a positivistic, empiricist model of the

world: that a task or event can be reduced to its constituent parts, a number of mechanical operations. Technology is also, male-gendered, in its design origins, built-in world view assumptions and in its on-going social construction (Cockburn, 1985). Part of the social relations of technology are, therefore, patriarchal. The other set of social power relations permeating technology in Western industrial society are capitalist. Technological determinism, on the other hand, presents technology as neutral, imbued with its own logic. It is thus viewed as producing 'hard data' which is 'objective', 'rational' and, therefore, superior; often rendering it of special legal status. The work relations technology engenders are similarly, often depicted as 'given', flowing 'naturally' from the technology.

Since medical technology has been strongly employed by the medical profession to achieve entry and domination of maternity care and to create Intensive Care, for subordinate health care professionals in these areas (in particular female sex-typed nurses and midwives) this raises questions of control in relation to job regulation, involving such issues as: fragmentation of competence, de-skilling and the exercise of discretion, together with more general questions of professional autonomy. These issues relate in turn to the overall division of labour and the general organisation of work. Following commentators such as Freidson (1961), Roth (1963), Hughes (1971), Fagerhaugh and Strauss (1977), Strauss et al (1982) and Stacey (1984), the centrality to the division of labour of the patient (or, in some cases their relative or birth partner) must be recognised. The impact of technology and work organisation also, therefore, raises questions of

autonomy, choice and skill for the patient (and their relative). Ultimately these issues are even more fundamentally crucial to these groups since they are caught-up in major life-events.

Technology in these areas has been associated with an attempt to regulate birth and death, whereby technology is available to help achieve a controlled, standardized birth or death, i.e. a birth or death that falls within certain parameters. Such a 'standard' birth or death is more easily legally defended, should the need arise. (In Obstetrics, uncertainty of outcome, both 'real' and exaggerated, may be used in justification of this strategy). In I.T.U., for example, the withdrawal of active support (except in the case of 'brain death' which will be discussed later) is managed in such a way as to attempt to mimic 'natural' death which is generally gradual. At the same time, attempts are made to standardize birth, to produce what is seen as the optimum care package, expressed in terms of Obstetric guidelines and protocols. In this sense, control is the overall goal but regulation is the means prescribed to achieve that end. Regulation, therefore, involves enmeshing the action in procedural rules laid-down from above with varying degrees of formality.

More generally, the pathological emphasis of the medical model has led doctors to present a reified image of the processess of ill health, leading to a commodification of its solution: the remedy becomes an object to be consumed (making profit for commercial drug and technology producers and enhancing the power and control of the medical profession). This process also involves absolution from feelings of

guilt and inadequacy, since the doctor-priest-magician, using scientific ceremonial and technological icons, convinces the patient's relative that "everything has been tried", "they can do no more", "nothing has been left to chance" (this may simultaneously afford the professional absolution under the Law from threat of prosecution). The problem and the solution are defined within the same paradigm (a specific cultural representation of 'reality' arising in a distinct cultural milieu - Kuhn, 1970); ensuring control and ownership for the defining experts: in this case the medical profession.

Control, however, finds a potential enemy in uncertainty. Medical sociologists have pointed-out the extent to which uncertainty permeates medical practice (Parsons 1951; Fox 1957, 1979; Davis 1960; Scheff 1963). Doctors must, therefore, find some way of managing uncertainty. Davis (1960) argues further that uncertainty ('functional uncertainty') may be used strategically by doctors in the management of patients and their relatives to avoid time-consuming and potentially emotionally distressing encounters. Here uncertainty is used as an avoidance strategy to prevent situations which doctors define negatively occurring between themselves and their patients or patients' relatives. I would suggest further that uncertainty may, paradoxically, be proactively pressed into the service of medical control. In Obstetrics, for example, uncertainty, in the guise of open-ended risk has been used to gain Obstetric control of the whole childbirth enterprise (see Oakley, 1984). Meanwhile, technology has been promoted as a major weapon in reducing uncertainty, to the point where the display of technological 'control' may be more illusory than 'real' and its iatrogenic effects

either ignored or de-emphasised. Overall, I will argue that, in the battle for control, 'uncertainty' is a resource which the medical profession manipulates along a continuum towards or away from greater uncertainty and that technology, the operationalisation of positivism, is pivotal to this process.

In this way, the medical profession, through the use of technology, exerts as much, sometimes more, control over subordinates working with and subject to the technology, than it effects a proven beneficial outcome on the course of events. Control within the labour process is, of course, never totally achieved. It is the subject of continual contest. Control is a dynamic process, constructed and reconstructed over time. To every 'thesis' of one power interest group there is a possible 'antithesis' around which a struggle for control may be mounted. Control in the workplace will, therefore, be socially negotiated around what Goodrich (1975) has called 'the frontier of control'. In this case the point of production of health care.

This thesis then attempts to explore the role of technology as a resource in the structure of medical domination of birth and death, stressing technology's pivotal position at the intersection of control and uncertainty. Here we might ask such questions as: is the biomedical model associated with certain forms of control and if so how and which? Although women are subject to the biomedical view of birth, do they share this perspective? Similarly, do relatives of ITU patients feel the body can be mended as a machine? If not, what images do they hold? Is care and cure commodified, as Illich (1976) has suggested? If so,

what are the mechanisms promoting this process? In view of the uncertainty (both 'real' and exaggerated) within the health labour process, how is this 'managed' by health care professionals and patients - and how and to what end can it be seen to be promoted or suppressed? I am arguing that technology use is central to the management of uncertainty - in practice what effect does technology use have on the illusion of certainty/uncertainty? What functions does this serve for the medical profession and other groups? How has the belief in technology grown to iconoclastic proportions? What fuels this process and what interests are served? It is to these and associated questions that we now turn.

CHAPTER 2

RESEARCHING MAJOR LIFE EVENTS

Entering 'the field', one is carrying certain biographical and conceptual "baggage" which is as 'real' and, indeed, more consequential than the note books, tape recorder and other 'tools' of the sociological trade (Middleton, 1978). In the preface I discussed my biographical imperatives. This chapter outlines the methodological background to the study, describing negotiation of access and how I conducted the research. In relation to access, it considers the critique of sociology as 'unscientific' made by some doctors approached to participate in the research; their objections emphasised the tenets of the medical model - an analysis of which was later to form a major element of this work. I also consider the relationship of theory to data and the epistemological and ontological questions this raises. Since the study involved observing and interviewing maternity patients and the relatives of ex-Intensive Care patients concerning major events in their lives, some detailed consideration is given to research ethics. The social relations of the research act, which this implies are examined from a feminist perspective.

1) Background Assumptions

Many of the more recent books of readings on the research process have called for a reflexive approach to conducting sociological research (Bell and Encell, 1978; Bell and Roberts, 1984). Feminist ethics is an aspect of such reflexivity (see, for example, Oakley, 1981b; Stanley and Wise, 1983; Finch, 1984). The call for a 'reflexive sociology' initially stemmed from Gouldner (1970, 1975), drawing attention to the

need to explicate the formulation and conduct of research and analysis.

Gouldner looked at the way in which sociologists not only studied society but conceptualised and ordered their view of it:

"To say that sociologists are in the business of creating concepts means that they are in the business of proposing and fashioning ways of looking at, thinking, and talking about - and hence contributing to the very constitution (author's emphasis) of - social objects and social worlds. They are not simply studying (author's emphasis) a social world-apart, but are contributing to the construction and destruction of social objects." (Gouldner, 1975, p.105).

More recently such concerns have taken the form of applying 'textual analysis' to sociological accounts (see, Atkinson, 1990). Reflexive accounts of the research act are epistemologically a far cry from the approach of Cartesians and neo-Cartesians, who believe that knowledge is, in principle, independent of the conditions of its production.

Thus, knowledge is seen as a separate objective entity, devoid of the social relations and social processes, including theorizing, that attended its production. As Atkinson (1990, p.175) puts it:

"There may be few unreconstructed positivists amongst contemporary social scientists but there are many for whom the contrasts of fact and fiction, of rhetoric and science remain tacit articles of faith."

Given such diverse thinking concerning 'the research act'; I feel I should outline my own position.

I did not enter the field with formal hypotheses, since I intended to generate theory from the data by means of inductive rather than deductive logic (c.f., Glaser and Strauss, 1967; Glaser, 1978). Having said this, I share Stanley and Wise's (1979) reservations concerning dichotomised understandings of the relationship between research and theory, represented as either 'deductivism' or 'inductivism'. In 'deductivism' theorising attends research as well as precedes it and in

'inductivism' it is clear that researchers do not arrive 'in the field' in an atheoretical state of grace. More generally, research is produced within particular political and economic circumstances by researchers with particular autobiographical features, social characteristics and methodological perspectives. Thus, Stanley and Wise make the point that although 'deductivism' and 'inductivism' are analytically valid as 'ideal type' constructs, they do not in practice describe the conduct of research or the production of knowledge.

This proposition is certainly underlined in my own case, since my approach to research is essentially eclectic. It employs a naturalistic, ethnographic approach which I hope is illuminating and sensitizing and shows, to quote Geertz (1988) that I have indeed 'been there'. The views of the subjects are reported and reconstructed via extensive quotations and observational excerpts. This being said, I produce the final 'text' and the interpretations it contains. Thus, this sociological text (like any text) can be seen as "an accomplishment, grounded in the conventions of textual performance" (Atkinson, 1990, p.4) - shared encodements between the writer and reader. Sociological accounts, therefore, share with other texts the status of artful products and, in this sense, they are highly contrived (Atkinson, 1990). They are reconstructions of social life, dependent on 'literary' and 'rhetorical' persuasive devices. Leading on from this, Atkinson argues convincingly for the notion of the "collaborative text" constructed between the sociologist, the reader and the social actors represented in the setting. Stanley (1990a, p.625) describes this as follows:

". . . 'description' is necessarily a gloss on the actuality it describes, and a gloss which constructs a 'point of view' on this actuality."

Thus, interpretations are not justified by the accumulation of 'facts' but by an active and involved understanding and representation of the social world (Schutz, 1963, describes this as an "adequate reconstruction"), together, I would argue, with an exposition of its relationship to social structures and social relations. By this I mean that in dialectical complementarity to an examination of the micro level of social life, I favour an approach which is located in a structural analysis of power relations and political economy. These imply a particular theoretical framework, since they are embedded with systematic background assumptions about the nature of the social world. At this point, for the purposes of this discussion, I wish to follow Harding (1987) and Stanley and Wise (1990) in drawing the distinction between methods and methodology: methods to refer to the 'techniques' of data collection and 'methodology' to mean the perspective or broad theoretical framework from which its collection derives and relates. The details of the 'methods' employed will, therefore, be discussed in Section 2.iv. 'The Conduct of the Research', while issues concerning the implications of the adoption of a methodologically eclectic approach will be discussed in Section 2.ii. 'Methodological Perspectives'.

ii) Methodological perspectives

My adoption of what may be seen as an eclectic approach is directly related to the problematic of the subject/object in sociological analysis. I have used an approach which contains elements of an ethnographic symbolic interactionist perspective but also of a

structuralist, Marxist feminist analysis. This needs some explanation. Symbolic interactionism whilst capturing the subjectivist elements of social life, has problems in dealing with issues of social structure and historical perspective and remains rooted at the micro-level.

At the same time, it gives, an inadequate description of power relations. In Weberian analysis, for example, power is expressed as the probability of individuals realising their wills despite the resistance of others. I am more persuaded by a view of power which takes into account collective forces and social arrangements, which are not always associated with observable conflict and in which the individual has objective as well as subjective interests (this model is basically Lukes', 1974, p.35, three dimensional view of power).

Furthermore, meaning is not infinitely or randomly negotiable, there are some structural constraints, strictures and conventions that at least limit the parameters beyond which the debate cannot be pushed:

"Men (sic) make their own history but they do not make it just as they please; they do not make it under circumstances chosen by themselves, but under circumstances directly encountered, given and transmitted from the past." (Marx and Engels, 18th Brumaire, 1962, Vol. 1, p.247).

Thus, Lukes (1974, p.54) argues:

". . . although the agents operate within structurally determined limits, they none the less have a certain relative autonomy and could have acted differently."

This relates to the recurring debate within social theory about the relative emphasis that theorists place on determinism as opposed to voluntarism, for example, Althusser's is a Marxist approach which stresses structural determinism and scientific materialism, while de-

emphasising the subject(ive). Voluntarism emphasises the 'humanist' and 'subjectivist', for example, Sartre, Lukacs and Hegel.

It, therefore, becomes a question of emphasis between the object(ive) and the subject(ive) and the relationship between the two. The concept of social relations, derived from the Marxist tradition, avoids this separation of the subject and the object, spanning both and emphasising their dialectical relationship. 'Subjects' actively construct their daily lives and engage in the production of social worlds and 'realities' and yet these are shaped by social forces which have a structured effect. Concern with material conflicts will lead to a structural analysis and an ethnographic approach will explore how these are played out and negotiated at a micro level and the meta-theories that attend this. An analysis rooted in social relations avoids the notion of a reified social structure, apart from and constraining of individuals and groups, and moves away from a dichotomised understanding of the world (Acker, et al, 1983). Following Smith (1979) and Acker, et al (1983), I would argue that one starts with what actors do and say and how they view their social lives, later locating those individual explanations in a societal and historical perspective, embedded within sets of social relations. This is to imply that individual explanations and structural aspects can only be fully understood in relation to each other. In terms of feminist analysis, no general agreement exists on what constitutes a feminist methodology (Clegg, 1975; Bowles and Duelli Klein, 1983; Stanley and Wise, 1983, 1990; Ramazanoglu 1989) and feminists are still divided over epistemology (Ramazanoglu, 1989; Stanley and Wise, 1990). However, like

Dorothy Smith (1986, p.6), I feel that, actors' own experiences alone are not sufficient to "explain the actual processes and practices organizing people's everyday experience", since, as she points-out, exploring how social phenomena are organised as social relations are beyond the scope of individual perceptions.

Furthermore, I would argue, following amongst others Bordo (1986) that to separate the subject(ive) from the object(ive) in sociological analysis or elsewhere in academic or social life is to create false dichotomies which derive from the male psyche (Chodorow 1978, Fee 1986). The separation of the subject from the object, the micro from the macro also tends towards a de-politicisation of the situation. That is to say, that analysing how the personal is political allows the analysis to be pushed beyond individual experience to an understanding of "its determination in the larger socio-economic structure" (Smith, 1977). In a similar vein, writers such as Sandra Farganis (1986) and Barbara Marshall (1988) have argued for an approach which combines feminist structural analysis with a 'critical theory' account of 'social action' associated with a critique of positivism and a view of theory as praxis.

In pursuing a Marxist feminist analysis, I share the view of writers such as Hartman (1979, 1981); Cockburn (1984); Walby (1986, 1990), that patriarchy and capitalism are two separate social systems in articulation with each other, which can neither be reduced to each other nor conflated into one system. Patriarchy and capitalism, therefore, interact and affect each other whilst being analytically distinct (Hartmann, 1979, 1981; Cockburn, 1984, 1985, 1988; Walby, 1986, 1990;

Mark-Lawson and Witz, 1988, 1990; Witz 1992). By 'patriarchy' I mean the broader use of the term, to refer to gender relations in which men are dominant and women subordinate. It, therefore, describes a societal level of social relations of male-dominance, not one merely located in the domestic sphere (Millett, 1972; Hartmann, 1979, 1981; Cockburn 1983, 1985, 1988; Walby 1986, 1989, 1990; Witz 1992). Following Hartmann (1981), I believe that patriarchy has a material basis. Many analyses of patriarchy (with exceptions such as Hartman, 1979, 1981; Cockburn, 1983, 1985; Walby, 1986) have put little emphasis on patriarchal relations in the workplace and have concentrated on the domestic sphere. It is important to explore gender relations in the work place and how the system of patriarchal relations articulates with the system of capitalist social relations in this setting. Patriarchal practices may be seen as a form of social closure (see, Parkin, 1979; Kreckel 1980; Witz 1985, 1992). Overall, it may be said that social structure presents different strictures and opportunities to women depending on the particular articulation between patriarchy, capitalism and race in which they are located. In recognition of this, several writers in the feminist tradition have pointed to the differences within feminism and between women (Walby, 1986; Ramazanoglu, 1989; Stanley, 1990b). Some have gone on to argue from this that women's experience is ontologically fractured by their particular location within a specific social context and that academic feminist writing typically reflects the experiences and analyses of white, middle class, heterosexual, First World women only (Stanley, 1990b); this critique has been termed 'feminist deconstructionism'.

The main focus of this research is medical technology. Given the methodological perspective outlined above, I view technology, like science, as permeated by power relations: capitalist and patriarchal. I, therefore, propose to pursue an analysis rooted in the labour process and the social relations of production. Discussing the power relations infusing technology, Cynthia Cockburn (1985, p.8) has argued:

"... technology as a medium of power, will be developed and used in any system of dominance to further the interests of those who are on top".

Cockburn (1985) following Genevieve Lloyd (1984) points-out that gender constitutes part of our means of categorizing and understanding the world. Lloyd (1984) explores the way 'Reason' (which she argues is the underlying concept of modern science, technology and industry) is itself gendered male: men, therefore, become both conceptually and historically constructed as the originators and inheritors of scientific and technical rationality. What might be taken to constitute 'scientific rationality' became an issue, and an area of some dispute, during the negotiation of access to fieldwork sites; and it is to this question that we now move.

iii) The Negotiation of Access

"The negative responses to the research proposal themselves became grist to my research mill". (Feifel, 1963, p. 13)

This is the way Herman Feifel described the various negative but illuminating reactions to his proposal to interview dying patients by

people purporting to protect them. I too found that gaining access was not merely a technical matter of facilitating the research, it actually drew attention to important methodological differences between medicine and sociology and, in the maternity part of the study, spoke significantly about the way in which some obstetricians and midwives view pregnant women.

The negotiation of access proved to be more straightforward in Intensive Care than Obstetrics. In Intensive Care it was possible to make a direct approach to the Consultant in charge of the Unit. In both Units, this led to access being granted, although other groups involved were informed and asked if they had any objections to the research proceeding; none did.

Gaining access to a Labour Ward proved more complicated. Wendy Savage (1987) argued that obstetricians are the the most emotional doctors in existence, making Labour Wards very tense places. She attributed this to the fact that Obstetrics takes you back to your own birth. My negotiations to gain access to the Labour Ward were certainly tense and emotional. Nevertheless, the protracted, and at times heated, negotiations did provide some useful data. Comments were made not just about the value doctors placed on sociological research and the boundaries of 'the scientific method', but the level of 'rationality' of pregnant women came under scrutiny. During negotiations both obstetricians and midwives at times called into question the validity of the research because they viewed pregnant or parturient women as

irrational:

"all pregnant women are hormonal anyway" (Senior Midwife).

"they're not at their most rational" (Paediatrician) - she felt pregnant women had to be protected against revealing this to other people (especially social scientists) who might take such information "and use it as if it were true" (Paediatrician)

This imputation of irrationality to pregnant and parturient women had obvious implications for their views being taken seriously by health care professionals or others. If the pregnant or parturient woman is considered incapable of rational judgement then her views and wishes may be seen as tainted with irrationality and worth little consideration. She may thus be treated paternalistically (sic.) rather in the way of a recalcitrant child. Smith (1981) makes the point (in relation to infanticide), that although all women are deemed to be unstable, this is especially the case at times of childbirth.

In addition, one Consultant Obstetrician felt that working class women would agree to my presence at their labours despite their true wishes (I did not need to defend this point as another Consultant snapped 'Come on X, working class women know whether they want someone at their labour or not!'). The same Consultant later commented: "you'll only get the views of the middle class women". This again seemed to imply a negative assessment of the working class, either indicating that working class women were inarticulate to the point of being unable to communicate or without opinions; presumably carrying implications for the Consultants own communications with this group.

To gain access to a Labour Ward, it was necessary simultaneously to convince the hierarchy of two professions - midwifery and obstetrics - of the value of the research. In the former, the Director of Midwifery Services was pivotal. In the latter, all Obstetric Consultants had to agree individually. This involved attending (in one case more than once) hospital Research Committee Meetings to argue my case. My application was vetoed by the midwives at one hospital because I was not 'medically qualified' and so, they argued, 'you won't know what you're looking at'; and yet this had not been an issue in Intensive Care. It seemed that obstetrics carried far more politically sensitive overtones. At the hospital where the research was eventually conducted, the Research Committee comprised a wide range of representatives from the medical, nursing, midwifery and paramedical staff. All other research proposals considered during my attendances were submitted by employees of the Health Authority who wished to conduct medical or nursing research. I felt very much an 'outsider', although I did enjoy the support of two of the Consultants, who had agreed by letter prior to the meeting that their patients might take part if they wished to. One was the Consultant who had cared for me during my pregnancies. He acted as something of an unofficial sponsor during the period of negotiation. In such a multi-disciplinary and hierarchical meeting, the risk of becoming embroiled in cross-professional politics and jealousies was high. At one meeting my research design was used as a vehicle for further conflict between two of the professional groups present and an argument broke out along group lines concerning an aspect of the study. I remained silent not wishing to become involved in a dispute which obviously had an independent history.

The area of the research itself, 'social' rather than 'medical', seemed to be viewed as inherently contentious. In terms of social research, the doctors appeared more favourably disposed to large epidemiological research projects. They were unhappy that the numbers interviewed would be small. They questioned my objectivity, especially in relation to observation; despite the fact that observation is a technique used constantly within medicine. One Paediatrician said, with some exasperation, "What are you measuring anyway?" This led into a debate about the scientific method within sociology and differing types of sociological approaches. The thrust of the comments of several of the medical profession present was that medicine operates on the basis of 'hard' objective data, whilst sociology produces 'soft' subjective data (again we see the problematic of the subject/object). Thus, they feared that the evidence I would produce would be "anecdotal", "subjective" and politically sensitive. Such exchanges must be kept in perspective both emotionally and intellectually. The 'medical' judgements which doctors see as 'objective' and 'measured' are embedded in the social relations of the wider society and the paradigmatic and textual conventions of their own discipline. Notwithstanding all these comments; they agreed in the end that the research should proceed.

Having successfully gained access, I was required to seek the approval of the relevant District Research Ethical Committees, since I wanted to interview patients or their relatives. Submissions had to be made jointly with a Medical Consultant employed in the participating hospital. In all three cases these applications were successful without the necessity to amend the research design. Initially in

relation to Obstetrics it was suggested by some members of the Research Ethical Committee that if I wanted to attend births it might be necessary for me to obtain the permission of the baby's father. This suggestion (which was opposed by the Chair of the Committee) was later withdrawn, in recognition of the difficulties that might be involved in establishing or contacting the putative father and given the woman's right, in principle, to have whomever she wishes at the birth of her baby (if the hospital is agreeable - in fact, the putative father has no legal right to be present if the woman or the hospital does not wish it). In relation to one of the Intensive Care submissions (the two were covered by different Districts), I had to satisfy a representative of the Ethical Committee that I recognised the sensitive nature of interviewing bereaved relatives. More generally, in both areas I agreed to adhere strictly to the length of time agreed for interviews of hospital staff (generally no longer than three quarters of an hour) and at one of the Intensive Care Units, I agreed to give written feed-back, focusing on ex-patients' relatives' reactions to the Unit and communication issues; which I did.

1v) The Conduct of the Research

Interviews and observations were carried out for two Intensive Care Units, reflecting the tendency for Units to have either a Specialised or General orientation. One Consultant Labour Ward was selected, given that the vast majority of babies are now born in Consultant Units. In general, comments relating to Intensive Care refer equally to both Units, where variations exist between the two, specific attention is drawn to the fact. Quotations from staff or relatives from the

respective Units are attributed to that Unit for purposes of information only (and not necessarily for comparative purposes unless this is specifically alluded to). Observations and interviews with Intensive Care staff took three months on average to complete in each Unit. The ex-patient relatives' interviews went on beyond this time and were eventually completed in tandem with the Obstetric research. The Obstetrics research entailed about eight months in the field. All fieldwork was conducted between January 1989 and October 1990. This was prior to the House of Commons' Health Committee's Second Report (1992) on the Maternity Services which recommends a move towards home births and a wider role for midwives. The vast majority of the interviews were tape recorded. All tapes were transcribed verbatim.

I constructed open-ended questionnaires (See Appendix I) for all the groups interviewed (See Appendix II) and used them in practice as interview schedules. This allowed me the flexibility to follow-up emergent data. I spent, therefore, varying amounts of time on individual topics with different interviewees, in terms of follow-up questions. I also built-up more rapport with some interviewees than others, since interviewing is a social situation with its own set of social relations.

I particularly wanted the research to include interviews with maternity patients and ITU relatives (I did not attempt to interview ex-ITU patients, since the majority remember little of ITU - see Asbury, 1985), since I wanted to explore their perceptions and I wished to avoid

merely objectifying the relatives by reflecting them only through the eyes of professionals, including myself. This is related to the methodological endeavour to retain an emphasis on the 'subject' and 'experience' as a route to theory.

Parallel to the interview data, I also carried out observation, and on the Labour Ward a certain amount of participant observation, for example, helping in basic care and emotional support of the labouring woman and assisting the staff in various minor ways. Participant observation, whilst a mainstay of ethnographic procedure has seldom been used exclusively, usually being employed in combination with other approaches. In addition I collected relevant documentary material where appropriate, for example, the written guidelines used on the Labour Ward by medical and midwifery staff. I also kept a fieldwork journal, which I maintained with varying amounts of diligence throughout the research. Spradley (1979) suggests this should contain experiences, ideas, fears, mistakes, confusions, breakthroughs and problems that arise during fieldwork and this broadly reflects what I wrote about.

The Obstetric interviews: I approached selected patients (see Appendix III) in the Antenatal Clinic, explained briefly the purpose of the research and said I would give more information should they decide to take part. The vast majority agreed. Reasons given for non-participation included, previous stillbirth, moving to another town/hospital. A small number merely said they would prefer not to take part and gave no reason. The women approached were those who were 'normal' (according to Obstetric definitions). Therefore, there was no

'medical' reason to suppose they might not expect, and be expected by staff, to have a 'normal' (vaginal, non-instrumental delivery) - I wanted to see what sort of expectations such 'normal' women held and how they were treated in labour.

Initial interviews were conducted when the women were between twenty-eight and thirty-four weeks pregnant. By the twenty-eighth week the 'fetus' is 'viable' and I interviewed the women when they arrived for what was usually their second antenatal check-up. I usually interviewed between the time the women were weighed/urine tested and their seeing the doctor. This period represented the longest wait for the women and some seemed glad of the diversion, although I had to offer firm-assurances that they would not miss their turn. My relationship with the clinic staff was good, so this was not a problem. The interviews, conducted in a private interview room, lasted twenty to thirty minutes.

At the first interview I asked if I could attend the birth. This question formed a sub-section on the consent form which the Research Ethical Committee required every patient to sign before the interview proceeded (See Appendix IV). I made it clear that I would still welcome their involvement whether I attended the birth or not. In retrospect, it would have been preferable to have had separate consent forms relating to permission to observe the labour as opposed to a willingness to take part in the research. This would have made it quite clear that the two issues were completely separate and also I could have waited until the end of the interview before asking to attend the birth; by which time, hopefully, a greater rapport had been established.

I found it a rather humbling experience asking women if I could attend the birth of their child; I felt I was asking a lot. Some of their replies made me feel even more humble (although they do feed into the tendency of women to be apologetic), one 18 year old woman commented: "Yes, if you want to. If you don't mind. It might not be very nice for you." Women in agreement were seen again (at the Clinic), in the form of a contact interview involving a brief, informal chat about their continued progress and feelings about the forthcoming labour. I checked that they still felt happy that I attend the birth.

Nearly half the women agreed to my attendance at their child's birth.

In practice the following occurred:

OUTCOME OF REQUEST (IN ADVANCE) TO ATTEND LABOUR

Response

Initially Agreed	..	..	..	..	..	..	..	..	..	..	..	14
Refused	..	..	..	..	..	..	..	..	..	..	..	16

Following Initial Agreement

Changed their mind when they went into labour	7
Hospital telephoned me but were unable to contact me	..	..	..	4
Attended the labour and delivery*	..	..	..	2
Arrived at the hospital post-delivery	..	..	..	1

*I also attended ten 'top-up' labours - defined and described later.

Thus, half the women who initially consented to my attendance, changed their minds when they actually went into labour. At the post-natal interview, the main explanations given were either that they felt more self-conscious in labour than they had anticipated or that it felt more of an ordeal (more painful or more traumatic) than they had expected and did not want more people than absolutely necessary to be present.

Of the seven cases where I was telephoned, on four occasions the hospital could not reach me. In three of these cases I simply did not hear the telephone downstairs when it rang during the middle of the night. A bed-side extension was installed. One delivery took place while I was away for the weekend (despite telephoning the Labour Ward twice, the labour was a quick one and took place during the intervening hours). In retrospect, given the 'on call' nature of this situation, and the fact that babies routinely arrive two weeks either side of their projected delivery date, it would have been preferable had I borrowed or hired a 'bleep' which I could have carried about with me during the research.

One woman whose birth I failed to attend had me telephoned on several occasions during the labour and when I saw her post-natally seemed genuinely sorry I had missed the event, which she described as 'ecstatic'. Another said her husband had been ill in hospital when she went into labour, since the Labour Ward was busy and she was labouring 'normally', she was left alone for long periods. She said she would have welcomed my presence to give her support. Another said she had felt "upset" when the staff could not contact me. I felt, therefore, that where the women had not reversed their initial decision, there was a considerable degree of commitment to my presence.

The hospital staff succeeded in contacting me on only three occasions and even then I managed to attend only two of the labours. In the third case I left home within ten minutes of notification, travelled the forty minutes journey to the hospital and still arrived ten minutes

after the baby was delivered. I walked into the delivery room to be greeted by the new mother with the words: 'I'm sorry!'.

There were other logistical difficulties too. Women were frequently admitted in labour in the middle of the night, when this happened I could not travel by public transport. Labours often end in the middle of the night, so that I had to be sure I had private transport home or I had to spend the rest of the night at the hospital. In addition, as a woman, I was not prepared to risk my own personal security by travelling alone on public transport at times when I would not be prepared to do so in my non-work life. This was doubly complicated, since I had to be sure my own children were cared for during such periods and that the car, if not myself, was available to take them to school or child-minder.

The 'agreed' labours I succeeded in attending gave me the opportunity to observe and record first-hand labours and deliveries that would later be described to me; so allowing some comparison of the two accounts. The post-natal interview started with the woman describing in detail her labour and birth experience. This resulted in a narrative - a 'birth story'. This seemed desirable, in that Ardener (1978) has argued that women's experiences are especially resistant to depiction through 'answer-size' pieces of information, while Graham (1984, p.118) argues that the use of narrative, which she terms 'story telling' allows informants: ". . . to participate as subjects as well as objects" and avoids ". . . the tendency of surveys to fracture women's experience." (Graham, 1984, p. 119). Narrative is also especially fruitful in

suggesting supplementary questions. Narrative was also elicited by one of the prompts in the midwife interviews: "Can you tell me about the last labour you attended?" (and Intensive Care nurses: "Can you describe to me what you did on your last shift?"). This resulted in a concrete description rather than an abstract appraisal of their work. I had considered using the diary-interview method (Zimmerman and Wieder, 1977) to capture such information but decided this entailed too much 'work' (note-keeping) for my interviewees.

During labours, I sat wherever in the delivery room seemed suitable, having consulted those present. Later I ran errands or became involved to the extent I judged appropriate (taking into account my relationship with the woman, demeanour of the midwife, and so on). I took notes during the labour which I completed later if I became more actively involved. On several occasions I was asked by staff to wear a theatre gown as they felt this made me 'less conspicuous'.

From the beginning it was clear that, given the logistics, I would only succeed in attending a proportion of the labours of women who had agreed to this in advance. It was necessary, therefore, to observe other labours where I would not meet or interview the women before or afterwards. These births, nevertheless, gave me further insights into the working of the department and the management of labour. I could, therefore, view this information alongside the accounts of other labours by mothers and midwives.

My attendance at such 'top-up' labours (ten) usually took place when the Labour Ward was too busy for midwives to be interviewed. The attending midwife would convey my request to be present to the woman. I decided that I would only get involved in a 'top-up' labour if I knew I could follow it through and stay for the delivery, otherwise I felt it was unfairly disruptive to the mother, to build-up rapport, show interest and then leave prematurely. This meant, if necessary, being prepared to spend the night at the hospital (this often, therefore, precluded my involvement in such labours). On one such occasion when I had stayed at a labour into the early hours of the morning, I was offered a spare bed in the Observation Department to sleep the rest of the night. I note in my journal that it is strangely disorientating to wake-up in bed in the Maternity Hospital where one has given birth and not have produced a baby; both a liberation and a sadness.

During observation of labours, several midwives, trying to 'make sense' of my presence, even when told I was 'a medical sociologist', enquired: "But do you know the couple socially then?" or "Have you met them before?". Usually I had not but then, in the majority of the cases neither had the midwife. And yet, their question seemed to be asserting that it would have been more culturally appropriate for a prior relationship to have existed. Although I too was there in a professional capacity, this often (initially at any rate) did not seem entirely credible to the midwife. This is partly, of course, that they think that health care professionals have more business attending births than sociologists but, nevertheless, the criteria and values reflected are, interestingly, ones they do not fulfil themselves. To the midwife

who had just come on shift with the labouring woman's cervix at 9 cms. dilated, I resisted the inclination, when asked "Do you know the couple?", to reply: "Better than you do"; I, at least, had been with them for several hours.

Witnessing birth, even on television, always makes me want to cry. The fact that I have given birth myself has made me more not less tearful in this situation so that, I was rather wary of bursting into tears when the baby arrived and being judged (within this culture) unprofessional. I note from my journal that one of the first births I attended did leave me with tears in my eyes. I suddenly became aware that the Senior House Officer (S.H.O.) was watching me very intently. Fortunately, he obviously thought it was 'touching' because he was smiling and studying me closely. When he saw I was aware of his gaze he looked somewhat embarrassed himself, seemed as if he was about to say something and then looked away. I suppose he had seen many births. This had been a delivery by rotational forceps; a difficult manoeuvre with the baby apparently in a particularly unfavourable position, requiring the Registrar to be supervised by the Senior Registrar. Perhaps the S.H.O. had experienced it as a resolution of a medical crisis but he was aware I had become caught-up in the parent's experience of their new baby. I felt he might consider this 'unprofessional' until I realised that he was probably looking at me with the same expression that I was looking at the new parents; he was caught-up in my experience of them.

A selection of patients of all Obstetric Consultants in the hospital (except one, who did not wish her patients to participate - no reason

given) took part in the research. I regularly checked the Admissions Book on the Labour Ward to discover when the labours I was not due to attend took place. I then (where possible) telephoned to make a home interview appointment (interviews lasted between half an hour and an hour). Where women did not have a telephone, I called without an appointment, since I had found in the ITU research that, people do not respond well to being asked (by letter) to initiate a contact time themselves. As far as possible, I interviewed women three weeks following the birth. I chose this time-lapse because memories of the birth are still fresh but some domestic organisation has been possible, hopefully making an interview not too disruptive.

Interviewing in the home proved highly time-consuming (both mothers and ex-patient relatives). The maternity interviews were scattered throughout various suburbs of a large city but the time-dictate of conducting interviews 3 weeks post-delivery, meant that women who lived relatively close to each other, usually could not be interviewed on the same day. Added to which, the 'unannounced' calls at the houses of those without telephones were usually fruitless - in some cases numerous return visits were necessary. In addition, some neighbourhoods I visited raised concern for personal safety. Interviews in high-rise flats, which were partially derelict with boarded-up windows, deserted walk-ways, graffiti and missing or defaced information boards, presented me, particularly as a woman, with some worry in terms of assured safe-access.

Midwives were interviewed on a one-to-one basis in a room adjacent to the Labour Ward. Interviews were not arranged in advance because workflow was unpredictable. I would interview whoever was free;; sometimes no-one was available. It was necessary to be infinitely flexible. I interviewed all levels of qualified midwives. Interviews lasted approximately forty-five minutes.

Interviews with consultants, lasting approximately one hour, were arranged in advance and took place in their offices.

In the Intensive Care, relatives were chosen (see Appendix V.) using Intensive Care Admission and Discharge Books. There were a number of problems with this approach. For example, all the information I needed was not necessarily recorded. At the second research site the next of kin and their telephone number was not shown. I eventually located these details on the computerized hospital patient information system. I intentionally included a proportion of bereaved relatives (to the extent that they reflected the death rates in the Units), in order to address the full range of research issues. Studies within the sociology of dying (for example, Field, 1989) suggest that between three and six months is the optimum time to interview bereaved relatives, for example, this is the conventionally accepted point at which bereavement counselling begins, and all such interviews fell within this time period.

Prospective interviewees were contacted by letter. Four types of letter were constructed (dependent upon whether the patient survived and

whether the relative had a telephone: See Appendix VI). Where possible, I said I would telephone within the 'next few days' but that they should not feel any obligation to take part in the research if they would prefer not to. I adopted this strategy to keep the initiative, in order to guarantee some momentum and, indeed, where I made contact by letter only (no telephone), few accepted my invitation to telephone me at the University. When they did, this too proved problematic. I was rarely in the Department to receive calls, since I was largely out doing fieldwork. Despite indicating that prospective respondents might telephone and asking office staff if they would mind recording details, one departmental secretary told relatives: "She doesn't work here. She doesn't come in very often. She's only a student." I explained to her, this made my task rather difficult, since I was seeking to build up their confidence in me as someone they could trust with their feelings about a life-crisis and she seemed to be conveying notions of inexperience and casual attachment.

In the cases where the patient had survived (and was not a minor), the Research Ethical Committees required their agreement that their relative take part in the research; none objected. Relatives were interviewed either at the hospital (in a private interview room) or in their own homes; in the majority of cases it was possible to give them a choice of these two locations. Five of the interviews were conducted by telephone (by prior arrangement), as a result of financial constraints on my part concerning long distance travel. Interviews lasted between thirty and forty- five minutes.

Interviews with the Intensive Care nurses (lasting approximately thirty - forty-five minutes) were not pre-arranged, in view of the fluctuating workload. Given, that the Units were usually full to capacity and that sometimes several patients were particularly unstable (even by ITU standards), on numerous occasions I was unable to do any interviews at all. At such times, where possible, I carried-out observation.

Interviews with Consultant staff, lasting approximately one hour, were pre-arranged and conducted in their offices. Interviews with other medical staff on the Units were conducted on the basis of availability.

Both ITU's allowed me free access to their Units (I had researched in one of the Units five years previously) but suggested that I carry out observations from the Central Nursing Station. Had I sat at the bedside, in addition to being (possibly) in the way if treatment was taking place, this might have raised issues of informed consent, where patients' relatives might have needed to agree to my bedside presence (the semi-conscious or unconscious patient would have been unable to give such permission and this in itself raises possible ethical dilemmas). Furthermore, to have spoken to nurses at the bedside about the patient or treatment, since the working assumption in Intensive Care is that the patient may be able to hear what is being said even if they do not appear conscious, would also have been problematic. My position at the Central Nursing Station, however, allowed me to listen to conversations at that location and gave me a vantage point from which to view the whole Unit. The extent to which screens were put round patients either while they were treated or if there was a particular

crisis varied between the Units (screens were used less in the Specialised Unit). Observation afforded me the opportunity to observe the work organisation of the Ward and staff/patient, staff/relative, staff/staff, patient/relative, and patient/staff (where patients were conscious) interactions. Telephone calls were also conducted from the Central Nursing Station both with other professionals and with outside relatives; so that these were audible to me. The staff changeover reports also took place at this location.

During observations in ITU I witnessed cardiac arrests and 'brain dead' patients. On the Labour Ward I attended a considerable number of labours and births; with attendant joys and crises. Ethical dilemmas are present in all research but since this study concerns the use of medical technology around the major life events of birth and death, it addresses an area where people are potentially highly vulnerable. Birth is seen to be associated with pain and sexuality and is seldom unpackaged in detail publically. Death poses even more of a threat. People often engage in the denial of death, and pain, as aspects of the human condition. Pain is probably, ultimately, more feared than death, in fact, death is sometimes viewed positively when it is seen as a release from pain. This research is, therefore, located firmly in the realms of the taboo subject (see Feifel, 1963). It may place the researcher at the emotional cutting-edge of life. The next section, therefore, considers research ethics and, in particular, feminist research ethics. In so doing, it will develop the theme of the subject(ive)/object(ive) problematic and relate this to the power

relations of the research act which constructs women/interviewees as

either 'subjects' or 'objects' in the research process.

v) Research Ethics - where to 'draw the line'

At times it was neither realistic nor desirable to 'keep my distance'

from people assisting this research. From my 'journal' I note:

Sitting holding someone's hand while they tell you about how their husband died in Intensive Care is not just a research situation, it is a human situation. So is taking them for a cup of tea afterwards and chatting to them in more general terms, to move them away from talking about their crisis. During this research I have been kissed by women whose births I have attended. I have been kissed by fathers in the first flush of parenthood. I have been kissed by a woman whose desperately ill husband eventually survived Intensive Care. We had spent what turned out to be most of the afternoon in the sun on her terrace with tea and cake, discussing what had been one of the greatest crises of her life. She insisted on driving me to the station and kissed me goodbye as I left. I have helped wipe women's faces in labour. I have taken photographs of their new babies for them. I have on occasion supported their legs while they tried to push out the baby (only one midwife being present and no birth partner). I have held labouring women's hands and offered comfort and encouragement along with everyone else. How could one do otherwise when spending long hours together in this most intimate of situations? I've wondered about my own Insurance position when I've been left alone with a woman in second stage whose baby was displaying signs of fetal distress. I've answered endless questions about the research. I have answered, where I've felt able, many questions about birth and childcare and have referred them elsewhere when this seemed more appropriate. In post natal interviews I have recommended possible remedies for cracked nipples and sleepless babies! I've answered numerous questions about my own babies, my own births and about myself. In the Delivery Room, I've turned on taps to stimulate women's bladders, run errands for birth partners, been sent by midwives to call for paediatricians, answered telephones and, at times, become extremely anxious about the outcome of labour."

However, positivist sociology cautions against what is termed

'overrapport' (Moser, 1958, p.187). What was I to make of this in the context of researching major life events and where was I to 'draw the line' in order to maintain the integrity of all concerned?

Stanley and Wise (1990, p23) have suggested five aspects which must be addressed in a feminist epistemology:

- : the researcher-researched relationship;
- : emotion as a research experience;
- : the intellectual autobiography of the researcher;
- : managing the differing 'realities' and understandings of the researcher and the researched;
- : the complex question of power in research and writings;

In this section, I now propose to address these issues in more detail.

Just before the ITU interviewing started I experienced some trepidation. I had never interviewed ITU patients' relatives before, added to which, some of whom would be recently bereaved. I had never interviewed 'the bereaved'. I was also very threatened by the thought of becoming involved in observation which might involve child-death. During previous ITU research I had no children; now that I had, given the identification this afforded, I was not sure how I would cope. Feifel (1963, p.13) researching 'the dying' commented:

"... another facet of work in this area - the researcher's own sensibilities about dying and death. One's own willingness to face or avoid the thought of death can be a relevant variable in the ensuing data. Few undertakings in psychological research, I think, are more emotionally exacting."

In the event, I was not confronted with child-death but I did talk to ITU staff about this in order to 'air' my feelings. They were very responsive. Child-death is, not suprisingly, one of the areas which causes most distress for Unit staff too.

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At its worst, ITU can, in a sense, feel like a war zone. If, as in one case, the patient is a young girl and she has had both her legs amputated at the knees and several fingers amputated too, the results

can seem very like a war injury. To push the analogy further, the researcher in the role of observer and documenter of so much grief and suffering can feel rather like a war correspondent. The fact that my role in ITU was confined to observer and documenter (in Obstetrics it was not), meant that I provided no practical help, which could at times leave one exposed to fears of neo-voyeurism. I felt, however, I had learned an important lesson in previous ITU research: -

A young girl had been brought into the Unit unconscious having left for school earlier that day ostensibly in good health. A brain haemorrhage was suspected. The first her parents knew about this was when they were summoned to the ITU. I was sitting observing at the Central Nursing Station when they arrived and took up their distraught vigil beside their daughter. The curtains were not drawn round them and their degree of distress was such that I felt I could no longer remain seated nearby; especially not while taking notes. I got up and left and went off the Unit into the nearby staff kitchen. I arrived there to find the Nursing Auxiliary from the Unit in tears about this situation. I made her a cup of tea and tried to console her; at this point, unsolicited, she talked at length (in effect emotionally unburdening herself) about the major impact of child death on the Unit. It was then that I realised that I had not stopped collecting data.

It was clear that I could not get myself off the ethical 'hook' just by mounting an impulsive, ill-thought out retreat.

Although the research had been vetted by hospital Research Ethical Committees, I felt a great deal of personal responsibility when the time came to contact patients' relatives. It was not just a question of remote and abstract 'ethics' but the overwhelming feeling that these people had been through enough distress. The last thing I wanted to do was to add to it. Further ethnical worries around contacting relatives arose because several of the ex-ITU patients had died following discharge from the Unit; either on the Ward or at home. Since at the first site I gained contact information exclusively from the ITU Ward

Book I had no way of detecting this and on occasion contacted relatives of people who had by that time died. I was naturally very concerned to avoid this thereafter and at second Unit I cross-checked with the computerized hospital patient information system that the patient at least left hospital alive. This underlines an important point: Intensive Care is concerned with seeing a patient through a severe medical crisis; the patient may not survive in the longer term. Where I knew the relative to be bereaved I constructed the contact letter especially carefully (Appendix VII), closing with the comment:-

"Finally, may I say, that I hope that you do not object to my writing to you in this way and that this letter has not in any way added to your distress. We did consider the situation very carefully before contacting bereaved relatives and if you feel we took the wrong decision in contacting you please accept our sincere apologies."

Furthermore, making contact and finding the potential interviewee bereaved was not confined to Intensive Care. In Obstetrics, where I had not attended the labour, I checked the Labour Ward Admissions Book for birth details. I telephoned one woman, only to find that her baby had died before discharge from hospital. I felt mortified by this experience; the baby's funeral was planned for the following day and I had telephoned to arrange to talk about his birth. The exchange that followed may best be described as 'mother-to-mother'. I fail to see what help orthodox interviewing techniques could contribute to dealing with this situation.

Ethical questions unrelated to bereavement also presented themselves around the interview-situation:

One woman interviewed post-natally appeared to have been physically assaulted. The bruises, around her eyes and nose, were fairly old and

turning yellow. She did not refer to the bruises. She was not on the telephone and I had, therefore, called unannounced. She was very unhappy about her birth experience and how it had been handled by hospital staff. I had to decide whether to raise the question of the bruises with her. I felt I could only ethically defend doing this if I felt I could improve the situation in some way.

In the end I did not mention them, although I tried to give her every opportunity to do so. While she tended the baby, I helped dress her toddler and asked about the birth. Apart from this being a response to his bringing clothes and shoes to me, I felt this helped render me accessible if she wanted to talk. I made this decision for a number of reasons. She made comments that suggested she was not socially isolated and did not appear depressed. Her other small child and the baby both appeared well-cared for. A new baby would mean she would have contact with a Health Visitor either because she attended a Baby Clinic or had failed to do so. I felt that she had agreed only to my entering her home to talk about the birth of her second child. In so doing, I felt she was already giving me an insight into a very personal part of her life. I had also entered into an agreement with the Research Ethical Committee that I would stay within a certain framework of questioning and conduct. I was also aware that I entered her house as a middle class woman, and by age and association with the hospital potentially an authority figure (especially to a working class 18 year old). She was in her nightdress; I arrived with a brief case - this seemed to underline the inequality between us in terms of power (see Oakley, 1981b; Finch, 1984). I, therefore, felt I should respect her silence on this issue.

Another moral dilemma arose when I interviewed the mother of a five month old baby who had been in Intensive Care:

It was an incredibly hot day when I arrived mid-morning to find the mother asleep on the settee with the curtains drawn, the fire on and the baby in a bouncing cradle in front of the television. The mother had three other children. She told me in the course of the interview that they had all been in Intensive Care at some point. The mother smoked throughout the interview despite the fact that the baby had respiratory problems and given that the room was already airless and unbearably hot. I became alarmed when she said that the baby had on occasion again stopped breathing (the reason for his previous admission). She said she had 'smacked him' to make him breathe again. (She recounted this as part of a story about passers-by wondering why she was hitting her baby.) I asked if she had subsequently taken him to a doctor; she had not. She said she might mention it at his next Clinic appointment in two weeks time. I said I thought she should take the baby to her G.P.

Afterwards, I decided to break the guarantee of anonymity and confidentiality given to the mother and I spoke in confidence to the Director of the Intensive Care Unit asking his advice. We agreed that he contact the Consultant Paediatrician in charge of the case and it was arranged that the baby's G.P. call at the house, ostensibly with a routine enquiry about how the baby was progressing.

It is undeniable that I am making value judgements and engaging in uncomfortable moral decisions here. I cannot claim that they are the 'correct' decisions and they are certainly not the only possible 'solutions'. In both cases a decision had to be made: whether I should go beyond the boundaries of the social researcher role and indeed to decide, what were the boundaries (see Oakley, 1981b). Deciding unquestioningly to do nothing would not have been a neutral act. In the first case I felt, on balance, it was in the interests of the mother I should not comment on her bruises or break our agreement of confidentiality by contacting an outside Agency. In the second case,

I felt it was necessary to act as an advocate for the child who seemed to me potentially at risk through his mother's inactivity. This evokes Becker's famous question: 'Whose side are we on?' (Becker, 1967 - see also Gouldner, 1973; Barnes 1979) and illustrates that at times it may be impossible or undesirable to 'sit on the fence' either during fieldwork or in writing-up research.

These examples, specify the more general ethical question of the power relationship between the interviewer and interviewee. The interviewer tends to have more power than the interviewee. However, this is mediated by the social relations of the wider society and where in those relations the participants may be located. In some cases the interviewee may be of higher social status with greater power than the interviewer: class, gender and race are all relevant (see Scott, 1984; Smart 1984). In general, however, the situation tends to be the reverse and the social status and situational power of the (usually white) middle class interviewer is greater than that of the interviewee. The interviewer sets the basic agenda and usually initiates and terminates the interview. The interviewer determines the questions. The interviewee can refuse to answer, although this in itself takes some self-confidence (this again depends on the relative social status of the interviewer/interviewee in wider society). The interviewee can, of course, seek to fudge or mislead and, in any case, still holds the discretion about how they actually answer the questions. At the end of the day, the interviewee does not own the data and, for example, Stanley and Wise (1983) suggest that it is the production of written texts that gives (feminist) researchers ultimate power over their

research subjects. The interviewee should therefore, have some rights and the interviewer some responsibilities.

At the outset the interviewee should be told the aims of the research and how it is anticipated the data will be used. They should be told roughly what areas will be covered in the interview, roughly how long it will last, where it will be held, who will be present, how the data will be recorded and what will happen to the record (for example, whether tapes will continue to exist after transcription and who will listen to them) and whether there will be more than one interview. They should be guaranteed confidentiality and anonymity at all levels of the analysis. They should be told, in other words, what they are letting themselves in for. Any questions about the research or the researcher should, as far as possible, be answered. They should have reason to feel they can trust the interviewer and have confidence in their professionalism and sensitivity not to abuse the situation; particularly if the interview material itself is of an intimate and 'high risk' nature. Since this research fell into that category, I tried to ensure that interviewees discussing major life events felt as comfortable, interesting and valued as possible. Interviewing ex- ITU relatives, it was almost a question of providing a 'safe environment' in which they felt free to talk. I also tried to ensure that the interviewee did not appear to get out of their emotional depth.

The maternity research involved multiple interviews, leading to the increased possibility of emotional involvement between interviewer and interviewee. Laslett and Rapoport (1975) view the repeated-interview

situation as especially 'interactive' and 'collaborative', requiring a more developed relationship between interviewer and interviewee. I felt similarly, that detachment on my part may lead to a termination of the women's on-going commitment to the research. However, such intimacy may lead to exploitation. Oakley (1981b) argues that ethical dilemmas are most acute when there is least social distance between interviewer and interviewee; particularly between women interviewing where a special trust and identification may arise (see also, Stacey, 1983; Finch 1984). The majority of my interviewees were women, so I had to bear this in mind, particularly with those giving birth from whom, in principle, I had the least social distance. Hobson (1978), Oakley (1981b) and Finch (1984) all report being located as a woman by women interviewees, who elicited personal information and used this to relate to them along the woman-to-woman dimension:

"... being 'placed' as a woman has the additional dimension of shared structural position and personal identification which is, in my view, central to the special character of the woman-to-women interview." (Finch, 1984, p.78)

From my observations and midwives' comments, maternity patients also sought to 'place' them in this way, often asking questions, such as : "Are you married?", "Do you have any children?" Does this mean that the closer the woman's identification with the midwife as a woman, the greater the potential for exploitation too? Was this identification a safeguard or a potential hazard?

Finch's contention (1984, p.85) concerning the identification of women:

"... the basis upon which the information has been given is the trust placed in one woman by another" (Finch, 1984, p.85),

does not, I feel, describe the interviewing of women as I experienced

it. Certainly, the woman-to-woman element was significant but it was not the only dimension to the exchange. Age, class, culture and race are also factors which may create solidarity or barriers and inhibit or promote identification (see, for example, Walby, 1986, Ramazanoglu, 1989 and Stanley, 1990b, on the differences between women); whereas Finch, (1984, p.78), stresses women's "shared structural position". Although I believe all women are oppressed by patriarchal structures and individual men, they are not all oppressed in exactly the same way or to exactly the same extent and the amount of power varies between women, as does the amount of power women have over other women. Their identification with the woman interviewer will not, therefore, be a 'complete' identification; there are likely to be some elements between the two that will promote social distance. Furthermore, the women were aware and, I believe, continued to be aware on some level that I was a social researcher (this was after all my introductory status) and women are capable of some circumspection in social situations - they are not hapless victims of possible manipulation. Like McRobbie (1982) I feel that there is no reason why the research process has to be exploitative of its subjects.

Although recognising the potential for exploitation in close identification between the interviewer and interviewee along the 'woman-dimension', Finch (1984, p.79) notes that in order to gain maximum identification:

"... the interviewer has to be prepared to expose herself to being 'placed' as a woman and to establish that she is willing to be treated accordingly."

Risks and trust are to some extent an issue, on both sides. This makes

for a more equal relationship and as Oakley (1981b), Duelli Klein (1983) Du Bois (1983) Miles (1983) Reinharz (1983), Stanley and Wise (1983), have argued, research strategies which avoid creating a hierarchical relationship between interviewer and interviewee are particularly appropriate for a feminist interviewing women. This directly contradicts:

"... the paradigm of the 'proper' interview (which) appeals to such values as objectivity, detachment, hierarchy and 'science'..." (Oakley, 1981b, p.38)

Completing the field-work does not complete the circle of ethical dilemmas, we are now confronted with: 'Whom are we writing for?' (Roberts, 1984) when we describe our research findings. There is also the exploitative potential that the researcher may lose control over the data and the way they are used; resulting in it being employed against the best interests of those interviewed (Morgan 1972, Finch 1984 and Roberts 1984). Thus, Finch (1984, p.83) comments:

"The sociologist who produces work about women, therefore, has a special responsibility to anticipate whether it could be interpreted and used in ways quite different from her own interpretations".

Within this research there are implications for the treatment of women in labour. In Intensive Care there is great sensitivity and contention around withdrawal of active support, brain-death and organ transplantation (for example, a 'Panorama' programme on brain death, October 1980, led many people to rip-up their organ donor cards). Furthermore, media depiction of research findings may not always be accurate (see Morgan, 1972) and may lead to complaints from those who participated in the research. Stanley (1990b, p.12) argues that feminists should address the 'conditions of women in sexist society' and

that the feminist writer should be located within her script, while Du Bois (1983, p.108) argues for a "passionate (feminist) scholarship". At a practical level, it would be reasonable to feed positively into debates about policies and practice in the areas concerned.

Dissemination through health care professional journals allows good access to that readership. More generally, sociology should be concerned with a radical critique (Gouldner, 1973) and political praxis (Stanley and Wise, 1990).

It seems entirely reasonable that Bell and Encel (1978, p.4) conclude that social science is not "like it is presented and prescribed in those (standard social science) texts. It is infinitely more complex, messy, various and much more interesting." Women being interviewed by women may, as commentators describe, increase their vulnerability in some ways but it is also a protection, since, potentially it reduces their chances of being mis-understood or mis-represented. It also protects against the gender social relations of wider society being replicated in the interview situation. Oakley (1981b) talks of the male-myth of the hygienic scientific interview with the accompanying mystification of the researcher and the researched as objective instruments of data production. In practice, the power relationships built into many 'textbook interviewing techniques' (for example, Goode and Hatt, 1952) keep the interviewee not only at a distance but at a disadvantage.

Thus:

"The commitment is to a sociology in which women are subjects and not objects in the research process; a sociology which enlightens and emancipates (Graham, 1984, p.122)

This applies equally to women as researchers as to the women with whom

they engage in the research act. Women researchers should not allow themselves to be objectified into an instrument of data collection; forced into an alienated male form. Feminist researchers should resist this appropriation of their contribution and pursue a methodology which enlightens and emancipates themselves as women as well as their interviewees. Thus employing:

" . . . a sociology which places a particular emphasis on experience and subjectivity as the route to theory. The questions we ask of women relate to our own lives as women. . . " (Graham, 1984, p123)

This chapter has considered the methods and methodology employed in this study, together with the politics of the negotiation of access. In the next chapter I shall examine the origins and background assumptions of the medical model - which arose earlier in this chapter during access negotiations, in the guise of a critique of qualitative research methods. The implications of the medical model for medical methods and technology will be addressed and the theme of the subject-object problematic will again be raised - this time in relation to the medical model and the scientific method in the 'natural' sciences. Its theoretical implications will then be considered in terms of medical practice and technological implementation in Intensive Care and the Labour Ward.

CHAPTER 3

THE MEDICAL MODEL AND THE SCIENTIFIC METHOD

"Are biology and chemistry and physics an adequate, appropriate and complete basis for a science of healing human beings? If not, what is the basis (or what are the limitations) of scientific medicine?" Ehrenreich (1978, p. 30)

In this chapter I want to look in more depth at the origins and development of the subject-object problematic in the scientific model on which medicine is based; and the implications this has for Intensive and Maternity Care. Before that, it may be useful to outline the major features of the medical model.

The medical model is typified by a dualistic, positivistic approach which systematically over-values one type of knowledge whilst de-valuing another. It emphasises the physical nature of sickness and disease, precluding a central focus on experience, feelings, emotions or the patient's interpretations of events, which it holds to be subjective. Hart (1985) has identified five aspects of the medical model used by doctors, in summary:

1. A concern with the organic appearances of disease, ignoring or dismissing the link between mind and body, between physical and mental well-being (even psychiatry is seen predominantly to seek organic causes).
2. A concern to cure which, in practice, is often impossible. Hart links this with a 'conjuring trick orientation', shared by religion and magic. The patient tends to have a considerable emotional involvement with this dimension.
3. Disease is seen as a temporary condition (in practice, often it is not), almost superimposed on the patient.
4. An individual focus is taken, an emphasis on the isolated individual.
5. The medical environment, i.e. the hospital, is the best place for treatment.

Medical technology is linked to all aspects. "A concern with the organic appearance of disease. . ." (1), suggests that it can be observed visually either photographed (by X-rays, gamma cameras and so on) or measured by electronic monitoring devices and visually displayed numerically. A concern with "cure" (2), may lead the patient to make a considerable emotional investment not only in the doctor but in medical technology to provide salvation from life-threatening disease or trauma. (I would further argue that where cure cannot be effected, medical technology can assist in absolution, in that, "they tried everything.") Since disease is seen as "almost super-imposed" (3), this makes it observable and measurable in some sense 'apart' from the patient; medical technology is central to this surveillance and quantification. Medical technology may also be seen to reflect an "individual focus" (4), in that it concentrates attention on individual cure through technological detection and/or support, rather than focusing on the causes of disease in the community and workplace. Finally, the proposition that the "medical environment" (5), that is, the hospital, is the best site for treatment is associated with technology and technological expertise.

The 'medical model' has been extensively criticised during the past twenty years. This critique began in psychiatry. The counter-claim was made, for instance, that there is no such thing as mental illness (paralleling physical illness), only unhappiness or deviance (Szasz, 1971). Similarly, Illich (1976) noted that 'suffering of all kinds' had become the subject of hospitalization. Childbirth too became medically imbued with a 'pathological orientation' (Haire, 1978). This is related

to the increasing medicalization of life (Zola 1972; Illich, 1976). The possibilities afforded by the medical model (and the hospitalization that accompanied it) for reclassification, regulation, control and domination have been noted by a number of commentators (for example, Szasz, 1971; Scull, 1979; Foucault, 1977).

1) The Scientific Method as applied to human curing and caring

All branches of medicine adopt a highly mechanistic model of the patient, whereby the body is viewed as a machine - a set of mechanical parts (known as 'mechanism'). This view replaced the earlier Aristotelian image of the world and the body, as an organically integrated whole (known as 'vitalism'). The mechanistic view developed in the Seventeenth Century and is rooted in the theory of Mind-Body Dualism propounded by Descartes. Mind (soul) body dualism appears linked to Descartes' desire to prove the independence and, therefore, (possible) immortality of the soul. Given its separate existence the soul will not (necessarily) be destroyed with the body. Descartes saw the physical body as subordinate to the mind (as will be seen, the mind is conceptualised as male, while the body is identified as female). Only the mind, he argued, can be experienced directly. Everything else (including the body) is experienced only through the perception of the mind. The body is divisible; the mind indivisible: ". . . although the whole mind seems to be united to the whole body, yet, if a foot, or an arm, or any other part, is separated from my body, it is certain that, on that account, nothing has been taken away from my mind." (Descartes, 1968, p.164)

Mind/body dualism revolutionised anatomical dissection and experimentation, facilitating the use of the human body. Doctors no

longer had to rely on comparative anatomy. This represented a move from 'observation' to 'active intervention' (Doyal, 1979, p.33).

Institutionally, mind/body dualism facilitated a division of labour between the Church, which continued to administer to the soul and medicine, whose province became the body.

The emergence of 'scientific medicine' represents "a shift from a person-oriented to an object-oriented cosmos" (Jewson, 1976, pp.225-244 - see also, Reiser, 1978). It is associated with a widening of the social and conceptual gap between doctors and patients. By the nineteenth century patients were gathered together in large hospitals caring for the working classes. Patients were no longer seen as individuals but 'cases' and the disease had become more important than the person (Figlio, 1977). At the same time, disease came to be seen as 'localised pathology' rather than the disturbance of the total system (Doyal, 1979, p.31). Doctors became concerned to correlate verifiable external symptoms (those reported by the patient became less important) with those internal malfunctions they could discover by, for example, autopsy or exploratory surgery. A variety of instruments had also been developed, for example, the thermometer, stethoscope, laryngoscope, enabling the doctor to examine the inner workings of the body. 'Laboratory medicine' finally consolidated the mechanistic world view in the latter half of the nineteenth century with developments in histology and physiology and the individual cell became the focus of attention (Jewson, 1976). Such developments reinforced the notion of the patient as an 'object' and the view of the 'expert' came to form the social definition of health and illness (Doyal, 1979, p.34):

"Thus scientific medicine ultimately became curative, individualistic and interventionist, objectifying patients and denying their status as social beings." (Doyal, 1979, p.30)

On the other hand, the move away from the Aristotelian view of the body ultimately made possible such procedures as vaccination, anaesthesia and antibiotics. It also paved the way for the development of high technology medicine.

Thus, medical science is a specific cultural representation of 'reality' (a paradigm) rooted in a particular time and culture (Kuhn, 1970). This bears further scrutiny, which it has been given by feminists in particular. Philosophers have pointed to the Cartesian doubt and epistemological insecurity evidenced in the early Descartes' Meditations (Bordo, 1986). This has been described as the great "Cartesian anxiety over the possibility of intellectual and moral chaos" (Bernstein, 1980, p.762). Bordo (1986) links this anxiety to the separation from the organic female universe of the Middle Ages. Thus, Bordo sees Cartesian objectivism as a defense mechanism to separation-anxiety, resulting in "an aggressive flight from the feminine . . . (and) a Cartesian re-birthing and re-imaging of knowledge and the world as masculine" (Bordo, 1986, p.441). Feminist Philosophers, such as Sandra Harding (1981) have argued that the scientific model represents a "super-masculinization of rational knowledge". Here 'masculine' describes not a biological category but a cognitive style; an epistemological stance. Typically described as 'detached' (Bordo, 1986), Evelyn Fox Keller (1985) sees it epitomized in modern science as the ideal of 'objectivity' (dependent on a Cartesian separation of the physical world from the self). Thus (and here we are reminded of the Consultant Paediatrician who during access

negotiations asked: 'What are you measuring anyway?'), Cartesian dualism implies that knowledge can only occur: "by measurement rather than sympathy" (Gillispie 1960, p.42).

Dualisms and dichotomies are, therefore, masculine epistemologies. They are also ontologically male. Post-Freudian psychoanalytic object relations theory (see, Elizabeth Fee, 1986) argues that boys and girls grow-up forming different kinds of ego boundaries (relationships with the world and other people). This is related to women being primarily responsible for child-care, which necessitates boys forming their (male) gender identity by denying and depressing their early identification with the mother (the primary love object); while girls are able to continue this identification. Thus, formation of gender identity for boys becomes based on disjuncture and for girls on continuity and connectedness. Chodorow (1978, p. 169) explains this as follows:

"Feminine personality comes to be based less on repression of inner objects and firm and fixed splits in the ego, and more on retention and continuity of external relationships. . . Boys come to define themselves as more separate and distinct. . . The basic feminine sense of self is connected to the world, the basic masculine sense of self is separate"

This cognitively male commitment to a rationalist rather than an existentialist view of the world is reflected in the orthodox scientific method and the medical model.

The Rationalist tradition, of which Descartes, Comte (the founder of positivism) and Bacon were a part, was from the beginning concerned with the rational conquest of Nature. Francis Bacon saw the task of science as controlling and ordering the chaotic threat of Nature which was conceptualized as female (Lloyd, 1984) (See also Caroline Merchant,

1980, Keller, 1985, Harding and Hintikka, 1983). * Thus, science and the rational conquest of Nature were themselves socially constructed as male gendered processes (Easlea, 1981; Lloyd, 1984; Cockburn, 1985). This flight from the perceived organic chaotic engulfment by (female) Nature resulted in the period 1550-1650 being particularly obsessed with bringing female procreative powers under cultural control (see Ehrenreich and English, 1973; Oakley, 1976; Merchant, 1980; Easlea, 1981). ** In various forms this suppression of the feminine has continued to the present day. Dorothy Dinnerstein (1977) and others have argued that this tendency lies at the deepest root of our current cultural troubles and they call for a re-assertion of the female in ethics, epistemology, science, education and politics - we might extend this list to specifically include health care. This would emphasise connected-ness and empathy, rather than detachment and distance (Bordo, 1986). Thus Rose (1987, p.279) argues:

"Unlike the alienated abstract knowledge of science, feminist methodology seeks to bring together subjective and objective ways of knowing the world."

Wajcman (1991, p.22) has criticised this type of position as "essentialist", since she feels it is based on "women's innate values"; she argues for what she terms an "historical approach". However, I do not see this approach as rooted in biological but ontological

*In Greek thought too the female was symbolically associated with the non-rational, the disorderly, the unknowable.

**This included the Malleus Maleficarum (the famous medieval witch-hunting manual) and the fact that midwives were often accused of reproductive crimes, such as, infanticide or abortion and declared witches. Male obstetrics may be seen as an aspect of this.

imperatives. I feel it is concerned with the experiential 'being in the world' of women (which is rooted in historically specific material conditions), and is fundamentally different to that of men (whatever the differences between the experiences of different women).

Technology is applied science, and, as Cockburn (1985, p.179) points-out: "It is not men but masculinity that has this bond with machinery". Masculinity is the binary opposite of femininity. Women have been constructed in opposition to men. In orthodox terms, for example, this means that men are rational/women irrational, men are strong/women weak, men are hard/ women soft, men are active/women passive. These are not just indicators of difference but positive or negative evaluations are attached to each side - women attracting the negative (Harding, 1986; Cousins, 1986; Smart, 1991). Cockburn (1985) identifies one of these dichotomies - hard/soft - as pervasive in the way men she studied (engineers) represented jobs and people. Lucas (1983) has traced the concept of women as 'soft' and men as 'hard' back to, at least the sixth century A.D. and, for example, the seventeenth century Cartesian philosopher, Malebranche, maintained women were intellectually inferior to men because their 'cerebral fibre' was 'soft' - lacking the solidarity and consistency of male fibre (Easlea, 1981, p.71). In relation to medical technology, I found that doctors, repeatedly referred to data as either 'hard' or 'soft' (I have also noted this phenomenon in academia). It seems that not only machinery but certain kinds of data also have a special bond with masculinity.

Like Cockburn, Sally Hacker (1981), studied engineers. She found 'mind/body' dualism central to their ideology, which identified the masculine (the engineer) with the mind, and the feminine with the body. Similarly, Easlea (1983) notes that in disciplines or sub-disciplines, the more theoretical (mental) are seen as less contaminated with 'female' matter and worthy of greater prestige. Similarly in Sartre (1990) 'immanence' - an immersion in physical life which threatens to engulf the self - is seen as epitomised in the female body (contrasted with male 'transcendence' - 'being for self', based on 'projects' and 'exploits'). De Beauvoir (1972) sees childbearing as the ultimate expression of 'immanence'. Lloyd (1984) and Cockburn (1985) have noted the male perspective of the very concepts of 'transcendence' and 'immanence' (and 'being for self'). They dichotomise the world and experience and elevate what is taken to be essentially male knowledge above female experience. Some feminists have pointed-out that men would benefit from more active involvement in physical nurturing, for example, Hilary Rose (1988) insists on the value of experiential knowledge. This is knowing as part of labour, and particularly women's labour, which is historically based on caring:

"As a profoundly sensuous activity, women's labour constitutes a material reality which structures a distinctive understanding of the social and natural world" (Rose, 1988, p.72)

It is possible, therefore, to criticise neutrality and objectivity not only in social science but also in natural science. This is equally open to patriarchal (and other political economy) definitions and usages of 'knowledge'. At the same time, the 'scientific text' is as much dependent on conventional textual devices as any other (Atkinson,

1990, p. 7):

"The text - the research paper or the monograph, say - is just as much an artefact of convention and contrivance as is any other cultural product"

Refutation of such propositions may be taken as tantamount to a denial of the labour processes involved in the production of knowledge (Stanley, 1990b). 'Scientism', therefore, is essentially centred on Cartesian notions of 'science', 'knowledge', 'the research process', 'theory' and 'expertise' (Habermas, 1984, Stanley, 1990b). This involves the separation of knowers and what (who) is known; subjectivity and objectivity; and, science and nature (Stanley, 1990b). Thus, Cartesian dualism is at the centre of the separation of subject and object in medical science as well as sociology.

The implications of a positivist perspective for the bodily/emotional division of labour - located in the context of Intensive Care and the Labour Ward - will be the theme throughout the remainder of this chapter. This will illustrate how the medical profession have 'carved-up' the body in line with the background assumptions of their particular paradigm and in order to facilitate greater professional control by Specialisms. The contention is that these concerns will be reflected in technology design and reinforced by its use.

ii) Measurement and Display

The medical model, concerned as it is with the organic appearance of disease leads to the proposition that this can be observed visually and either photographed (for example, by X-rays, ultra sound waves, gamma

rays), or measured by electronic monitoring devices and visually displayed numerically. Disease is seen as "almost super-imposed" (Hart, 1985), making it observable and measurable - in some sense, 'apart' from the patient. Medical technology is central to this surveillance and quantification. Electronic monitoring which is used extensively in Intensive Care and the Labour Ward is essentially in the positivist mode: concerned with those aspects which can be measured and visually displayed.

The need for close monitoring is a minimum requirement for admission to an ITU. Electronic monitoring is used to display continuously the patient's physiological status and aid the recognition of any changes taking place, either in the patient's underlying condition or as a result of treatment they are receiving. Information from monitoring equipment can also be used for diagnostic purposes. All electronic monitoring in Intensive Care involves attaching lines to the patient and some forms are highly invasive; the procedure itself carrying considerable dangers for the patient. In Obstetrics, electronic fetal monitoring is used routinely to monitor continuously the fetal heart rate and the mother's uterine contractions. This may be done invasively by attaching a fetal scalp electrode and inserting auterine pressure cathetar via the vagina, or externally be means of a belt around the mother's abdomen.

On a day-to-day basis in Intensive Care and Obstetrics the tension between methodological positivism and practical uncertainty (see,

Parsons, 1951; Fox, 1957, 1979; Davis 1960; Sheff, 1963) is managed and manipulated by the promise of control through the application of technology. Monitoring technology aids the management of clinical uncertainty by providing what is seen by doctors as 'hard data', to inform or back-up medical opinions.

Electronic monitoring aids surveillance of the patient (in obstetrics there are, in effect, two patients - the mother and the baby - see Arney, 1982), by making visible to the physician's gaze the physiological processes of the body (or at least some of them). This may be seen as part of the process of creating "a field of visibility" (Foucault 1977, p. 203; Arney and Neill 1982) wherein every move of the subordinate may be monitored by the superordinate. Such techniques, allied with tests, such as blood gas results, give a continuous physiological profile of the patient, expressed in a quantifiably numerical form. This form has a special credence::

"That's why you try and use the gases because it's difficult to say to everybody, 'Well, subjectively, he looked as if he needed to go on to a ventilator', while the blood gases are still within the bounds of what is considered acceptable. Once you've got the hard data it's much easier on the Ward round the next day to say, 'Not only did he look bad but these are his gases'. So I think sometimes you suspect something is wrong but you wait until you've got hard technical evidence." (Senior Registrar Anaesthetist, General Unit)

Thus, 'hard data' produced by medical technology, such as electronic monitors, is hard currency in negotiating with one's superiors or defending a clinical opinion to the wider medical fraternity (used advisedly). Intensive Care nurses were also aware of the bargaining power of 'hard data' and reported using monitor print-outs to prove points. For example, if they informed doctors that a patient's blood pressure had dropped but by the time the doctor arrived it was normal,

they could produce a trend print-out. Midwives also used 'hard data' in their negotiations with doctors about patient care, for example, a midwife talked of using 'a nice trace' (print-out from an electronic fetal monitor of the baby's heart rate) to 'bat away doctors from the door', making less likely their involvement in a labour she considered 'normal' - this is a 'radical' use of 'hard data', counter to the organisational culture.

'Hard data' usually involves measuring some element of the situation and, ideally, expressing the result in numerical form. As we have seen, Cartesian dualism implies that knowledge can only occur: "by measurement rather than sympathy" (Gillispie 1960, p.42) and that it is cognitively male. This may be compared (as in access negotiations) with qualitative 'soft data' which may carry overtones of being subjective, anecdotal, intuitive; this data is cognitively female. It is seen as subjective in two respects: both because it reflects the view of 'the subject' but also because the investigator is seen to have 'contaminated' the data by socially engaging with the subject. By contrast, the machismo of 'hard data', is characterised by: emotional detachment, the use of numbers rather than words, 'objectivity' and 'rationality' (see Lloyd, 1984, concerning the male-gendered nature of 'Reason'), and the de-emphasis of the personal experience of the investigator and the investigated in the research act. Positivism sees both its methodology and the data it produces as not only different, but superior to that of the 'soft' data approach it criticises. This reflects the hidden agenda of gender relations: that is, men and women are constructed not only as 'different' but unequal, since more value is

placed on the characteristics that men are supposed to possess. As Lloyd (1984) has pointed-out, the equation of maleness with superiority goes back at least as far as the Pythagoreans.

Jordan (1987) has argued that the use of technology introduces a hierarchy of competence and decision-making power. I wish to argue that it also institutes a hierarchy of data: that produced by technology is considered 'harder'/superior. Those who are competent in interpreting the readings produced by electronic monitoring of the body become those who are able to pronounce on what is happening and what, if anything, should be done about it.

The fact that 'hard' data is constructed as 'detached' is used as a solace both to those who have to make difficult decisions and those who are the subject of them. This is interesting in itself. Why should something uncontaminated by human emotion be viewed as a more balanced judgement, more reliable? Why are we invited to feel more assured by a decision arrived at by detachment rather than empathy? Why should subjectivity be presented as obscuring the right decision, rather than informing it? Certain highly complex decisions in Intensive Care, involving questions such as 'withdrawal of active support' and 'brain death' (where the brain stem having suffered some massive injury, results in there being no communication between any neuronal activity occurring in the brain and the rest of the body) are put forward as 'hard' or 'firm' decisions, seemingly belying the degree to which they appeal to specific analytical frameworks and involve the active interpretation of the participants to the decision (in practice 'brain

death' has been the subject of some controversy, for example, in the media). For example:

"That's the kind of decision (withdrawal of active support) which is taken in the daylight hours and that is quite a hard, objective decision and there's never the need to take a decision like that at night (here, the night appears to carry overtones of irrationality). You can always tread water over-night. You must take that decision after a full consultation between all medical staff and say 'right, well, time to pull out'. . ." (Registrar Anaesthetist, General Unit)

Here, "hard, objective decision" appears to refer, at least at the level of articulation, to "a full consultation between all medical staff" (the standard-bearers of objectivity), rather than a numerical analysis.

Supposed 'detachment' appears to serve a dual function. It suggests the data is 'objective' but also 'detaches' the medical profession from the decision. 'Distancing' themselves from the decision in this way renders the decision a handed-down quality, imbued with a logic of its own.

This is reassuring to both the medical profession and relatives, given the esteem in which 'objectivity' is held. 'Brain-death' criteria are also presented as very 'hard' data indeed:

"They are very firm criteria" (Senior Registrar Anaesthetist, General Unit), which can be viewed with "absolute confidence" (same interviewee), so that, "they're very hard guidelines" (Consultant Anaesthetist, Specialised Unit)

It seems the more ambiguous the situation, the more necessary the need for the data to be 'hard' and the decision derived from it to be 'objective'. Thus, 'hard' data is used as a way out of ambiguous situations which must be moved-on. In brain death, you can 'demonstrate the criteria' (a term regularly used on Units) in an empiricist, behaviourist, positivistic fashion, culminating, if affirmed, in the diagnosis of 'death'. Indeed, brain death criteria are sometimes demonstrated to the relatives directly, in their presence. Distancing

the decision from those who make it by using a methodology which purports to objectivity and is imbued with the authority of its 'maleness', acts as a reassurance to all concerned that they are absolved from the burden of existential uncertainty which an acknowledgement of the paradigmatic nature of the decision might involve.

At the same time, 'hard data', whilst of elevated status was not necessarily viewed in isolation. This is especially so in the case of nurses and midwives, who tended to cross-check it with data more perceptually derived or manually obtained (or using simpler technology). * They also tended to view the data more holistically and, in childbirth, in the context of the labour overall. For example, midwives, on occasion, would delay reporting monitor readings of 'fetal distress' because in context they felt them not to be genuinely 'abnormal'. Sometimes, midwives would overtly contradict 'hard data', for example, the midwife would tell the doctor that from manual palpation, the uterine contractions were stronger than they were registering on the monitor print-out and doctors tended to accept such statements.

*The majority of midwives continued to palpate the labouring uterus manually even if the women's contractions were being electronically monitored. Several continued to listen to the fetal heart with a Pinnard stethoscope, although that was being recorded electronically. Similarly, the Intensive Care nurse often checked the blood pressure manually 'on the cuff' despite it being recorded by electronic transducer. In both areas if a monitor reading was giving cause for concern, this would be cross-checked manually.

The role of electronic monitoring equipment in the production of increasing amounts of physiological data about the patient must, indeed, be viewed with some circumspection. The possession of more and more data about a situation does not automatically guarantee that one will come to the optimum conclusion in terms of patient care (the notion of 'optimum conclusion' is itself highly contentious). Any data has to be analysed and interpreted. Results may be debatable and the best strategy in the light of the results may also be questionable. The emphasis on 'hard data' de-emphasises the possibility of 'false-negatives'/'false-positives' and glosses over possible difficulties and ambiguities involved in the interpretation of results. Ultimately, regardless of the amount of 'hard' data produced, it is paradoxical that what is arrived at is termed a medical 'opinion'. There is then, a tension between the claims of the methodology in epistemological terms and the ontology of doctors.

iii) The Body Divided Against Itself

Positivism is associated with a mechanical view of the body. In Intensive Care this is linked to the notion that the body, being comparable to a machine, may be mended in much the same manner. In childbirth it leads to a concentration on the physical mechanics of birth and the association of these with 'pain'. Pain relief was, in fact, the principle entree of obstetricians to the active control of labour and delivery (Arney, 1982). Arney distinguishes between one and two-dimensional pain. The latter, is defined positively as: ". . . pain that women experience as their own pain, the pain that accompanies active participation ." (Arney, 1982, p.218). Experiencing pain in

different ways does not, however, square easily with positivism. Positivism is related to behaviourism and behaviourism proceeds on the basis of a stimulus triggering a response: as opposed to stimulus - interpretation (of meaning) - response. In relation to labour pain, the stage of interpretation of pain, its context, meaning and how it may be experienced in childbirth is often bypassed. Pain is felt and related to only as a painful stimulus, to be feared and despised; and the response is to attempt to stop such pain in its tracks.

This may also be contrasted with the view of Odent (1984) who maintains that birth is a powerful, primitive experience which in its final stages takes over the whole being. Odent promotes the notion of instinctual birthing, where the woman contacts primal instincts, deep within herself, in order to give birth with satisfaction and without complication. The ability to contact such inner primal instincts is associated with relational aspects of the woman's being, for example, the relationship to her own body, her support in labour, her own birth, the birthing environment and so on. Conversely, positivism takes pain out of its social, intentional and relational context and reifies it into an entity, a stimulus to be eradicated.

Despite increased knowledge about the physiological processes involved in childbirth, many aspects concerning subtle interactions of the body at such a time remain unknown. It has been observed that the artificial disruption at any stage of these natural processes may disturb the flow of the subsequent co-ordinated sequence (see Odent, 1984). The purpose of many interventions during labour has, in fact, been an attempt to

redress the harmful consequences of earlier interventions. MacLennan (1978) has termed this spiralling process a 'cascade of intervention'.

The medicalization of childbirth has meant that 'pain' in birth has come to be seen both by health care professionals and labouring women as well met by chemical pain relief. Recourse to medication is reinforced by the medical emphasis on the pathological potential of childbirth and its location in the hospital. The knowledge that artificial pain relief is readily available (on demand in the Obstetric Hospital - notwithstanding any contra indication), may of itself weaken and undermine the woman's confidence and determination to cope from her own inner resources and the emotional support of others. It may also weaken the professional carers' resolve to provide a high degree of emotional support.

At the Obstetric Hospital, technological solutions to pain in labour were to the fore; a typical reassurance to the fearful woman being:

'we have got all the equipment' (Staff Midwife).

". . . it can be painful but there is analgesia. Tell them the different forms and see what she would like." (Staff Midwife)

The view expressed repeatedly within the Obstetric Hospital was that women had 'different pain thresholds', for example:

". . . you can explain to women that they do have different pain thresholds and that we do have a range of techniques that are readily available for them to chose from which will accommodate the particular kind of pain threshold they have." (Consultant Obstetrician).

Many of the women also felt they had a certain fixed pain threshold and many who perceived labour to be difficult and distressing felt that their pain threshold must be low. The notion of a 'pain threshold' is again a reified physiological category and carries very different

implications to seeing pain as relational to the woman's 'being in the world', the environment in which she is labouring, her relationship with her supporters, and so on.

Technology used in childbirth reflects the mind-body dualism of the medical model. In contrast, for example, Chinese thought is profoundly non-Cartesian. Chinese traditional medicine integrates the spirit, mind and body, diet/dreams, energy flows/physical sensations. A dualist orientation is evidenced by much of the pain relief given in labour (see Appendix VIII for a detailed description of these): for example, Pethedine disorientates the mind, epidural anaesthesia paralyses the body; one is, therefore, left with one or the other intact but not both.

Pethedine is injected into the body by the attendant. The labouring woman is not, therefore, in control of the delivery of this method and once the drug enters her body, the effect (which the woman may perceive as helpful or unhelpful) lasts for several hours (this is to be contrasted with Entenox, 'gas and air' which is self-administered and the effects of which last one minute following exposure). It is clear that many women find Pethedine mentally-disorientating and, for some, its administration may complete their loss of control, rather than re-establish coping. Pethedine, in any case, since it is a narcotic, prevents the woman from being mentally alert.

An epidural, on the other hand, if working effectively, allows the woman to feel nothing from the waist-down. She cannot, therefore, be said to be in control of her body, even if she is being consulted and is

in agreement about what is being done to it. Her likelihood of needing a forceps delivery is greatly increased and, even if she does succeed in pushing the baby out herself, she may well feel neither the expulsive, bearing-down contractions, nor the birth itself. It typifies an approach rooted in mind-body dualism that two of the three major pain relief agents in labour (here I am referring to drug technology, so do not include TENS. I have also excluded general anaesthetic where the woman is totally unconscious and a medical operation is performed, i.e. a Caesarian Section), leave one either mentally engaged and physically dis-engaged, or physically engaged and mentally dis-engaged.

It seems, therefore, that Pethidine, in its effect on the mind and the epidural's effect on the body, serve to ontologically fracture the experience of giving birth and are antagonistic to an experience of oneness in childbirth. One is driven to the conclusion that in order to keep some control in the birth process the woman must, where feasible, confront pain and find some autonomous power to cope with it. Pain, in a sense, welds together the emotional and physical side of childbirth; it is in the concentrated effort to meet pain that she may enter into the flow of the birth process. If she can become at one with that, then 'pain' may not be experienced as 'pain' but simply as an overwhelming and all-consuming process of life. This is not to deny that in some instances, for example, the way the baby is lying, may result in labour being exceptionally painful and pain relief highly desirable. The mind-body dualism of industrial medicine mirrors the separation of physical and mental labour in the production of commodities: a division of labour which divorces conception from execution: intellectual from

manual work. Arguably the dislocation of these two areas in childbirth leads to further schisms and disruption of the birth process about which we still know so relatively little.

Having used this illustration from obstetrics to explore mind-body dualism and its possible effects, I now propose to explore this further by looking at the way in which the medical model involves a more general mechanistic carving-up of the body, in terms of 'systems'; on which professional, medical Specialisms are often based. Specialisms represent medical interest groups which are often highly politicised, involving rivalry, demarcation and conflict over scarce resources and prestige. To examine the implications of the systemic approach to the body for patient care, I shall shift the primary focus to Intensive Care, where the emphasis on 'shared-care' between the ITU Consultant (usually an Anaesthetist) and the Admitting Consultant (who may be from any Specialism) provides an especially sensitizing example.*

The ITU medical team were primarily responsible for supporting the patient's ventilation (breathing - lung function) and cardio-vascular system; together with emergency resuscitation should this be necessary.

*These dynamics also apply to maternity care, where obstetrics is concerned with the reproductive system and where, for example, there is an emotional division of labour between doctors and midwives but the emphasis will be as described above for the reason given.

The Admitting doctors remained responsible for treating the condition that caused the patient to be hospitalized in the first place. Since, in practice, this distinction is often difficult to draw or sustain, 'shared' or 'joint care' remained "a very thorny business, which can ruin more relationships than anything else" (ITU Consultant, General Unit). For example, the ITU doctors would normally be in charge of respiratory therapy for a patient who had a respiratory problem but, if they were already under a Chest Physician s/he would continue to assume respiratory care, even while the patient remained on ITU.

This approach reflects not merely mind-body dualism but a fragmentation of the body into different systems which are the preserve of cross-cutting professional rivalries, such that:

"They'll (ITU) ring us for anything from the waist down" (Renal Registrar).

"The Surgeons are here only to look at the surgical side, you know, their wound and that's it." (Sister, Specialised Unit).

This carving-up of the body is mirrored in obstetrics by the fact that the woman becomes synonymous with her reproductive organs - with all the irrationality that is culturally implied by that, i.e. women's bodies are seen as irrational and unreliable, given their relationship to chaotic nature (see, Smart, 1991). It is not surprising, therefore, that although obstetricians considered childbirth to be a natural process, they felt that nature was imperfect, should be 'watched' and could be improved upon (by [male] obstetric intervention).

In ITU, matters that could not readily be separated out as the province of one particular discipline or sub-discipline presented a particular

problem, for example, whether the patient should have a tracheotomy or whether antibiotics should be stopped to allow bacterial growth for examination purposes. These were viewed as multi-disciplinary decisions and, in practice, presented considerable potential for communication break-downs and political wranglings. Included in this category of multi-disciplinary decision was 'withdrawal of active support' from the patient whose death was deemed inevitable or whose quality of long-term survival was considered untenable. The decision to withdraw active support is taken at Consultant level with both the Admitting Consultant and an ITU Consultant involved. The Admitting Consultant has the final say, although it is unlikely that withdrawal would be carried-out in the face of peer-opposition. Like treatment, withdrawal of active support is also organised on a systems basis, normally support for the cardiac system is withdrawn first; in death, as in life, the patient is not treated holistically.

Despite 'joint-care', the Admitting and ITU Teams never carried-out joint ward rounds, nor did they hold 'case conferences' on individual patients. Depending on the degree of instability in the patient's condition, the Admitting Team visit the Unit on one or more occasions during the day:

"... and will then make contributions in the management of the patient, for instance, the surgeons may decide when the patient's drains (draining blood from the wound) can be removed, or they will inspect the wounds. . . also the Pharmacists come round and there is also the Nutritional Support Team. The Renal Physicians come round too, if the patient finishes-up with renal failure." (Senior Registrar, Specialised Unit)

The patient may, therefore, finish-up being cared for by several

different Teams, which address different bodily functions. In both Units there had been past attempts to institute an ITU Ward Round with all interested medical parties present. In both cases this quickly foundered and the different Teams continued to arrive at their separate times. Thus, although there is 'shared-care', decisions are usually made separately: "we make them very independently" as one Renal Registrar put it. This is related to concerns and conflicts around clinical autonomy, the 'ownership' of the patient (which remains with the Admitting Consultant - related to the presenting disease) and the systemic division of the body. These are all related to Specialization. In this situation, the employment of a lower-status 'go-between' as a mediating, defusing device is unsurprising. This role devolves to the nurse who remains constantly at the patient's side: the Admitting Teams use the nurse to find out what the Anaesthetic Team are thinking, the Anaesthetic Team use the nurse to find out what the Admitting Team are thinking, both Teams use the nurse to find out what the relatives are thinking and the relatives use the nurse to find out what the doctors are thinking. The nurse is, therefore, pivotal in the communication network of the Unit and this is related to the bodily, including the emotional, division of labour.

In this situation, communication break-down remains a constant possibility. When this occurs the nurse becomes not so much pivotal as 'piggy in the middle', for example:

". . . being 'piggy in the middle' when they're admitted under one, then the Anaesthetists get involved. Then they go into renal failure, so the Renal Team get involved and then they might start fitting, so the Neuro people get involved. Somebody asks you to do something. Somebody else asks you to do something else. Start this. Stop this. Start something else. You name it, they all come in. Parties! . . . like the (pioneer

team), they don't speak to the Renal Team so when one of their patient goes into renal failure, they won't ask the Renal Team to go and look at it because they don't speak to each other and they treat it themselves and they don't do it properly and the Anaesthetists get involved because this has happened . . . " (Senior Sister, Specialised Unit)

"We tend to get stuck between the two (the Anaesthetic and the Admitting Team). . . they (the Admitting Team) start complaining and you try to say what the Anaesthetist said, they say 'I don't care, it's my patient and I'll this, that and the other.' You often offer to get the Anaesthetist to discuss it and they say 'No, I don't want to talk to them but ...' " (Sister, General ITU),

This rivalry and specialization based on different aspects of the patient's body sometimes leads to decisions being delayed or left in limbo:

" . . . no-one will make the decision and you're left nursing what is just a corpse at times, and thinking 'you could have let them go ages ago' " (Sister, Specialised Unit).

The body of the patient has been objectified, divided into systems and shared out between the Specialists and the sub-Specialists. These operate with a partial view of the patient. It is not unusual, for doctors from a particular Specialism to arrive at the ITU and pronounce contentedly that the organ in which they have an interest is "now working perfectly", while, in the meantime, "everything else has gone" (as one Staff Nurse put it), and the patient is dying. This compartmentalization is a variation on the theme of the old adage 'the operation was a success but the patient died'.

The mechanistic carving-up of the body allows the building of Specialisms, medical reputations and empires, while it is increasingly difficult for the patient/patient relative to keep control in the face of such expert, fragmented knowledge, which may speak little to their own 'being in the world'. The problem of different and conflicting

information from different medical teams was experienced by some relatives in the study. One, a policeman, used to interviewing people, talked of 'different stories' from different Specialisms when he 'tried to get a few answers out'. Another relative experienced some distress when she perceived conflicting accounts around the decision to withdraw active support from her dying husband. Nurses (women) are left to manage the ontological disjunctures of this type of epistemology.

Strauss, et al (1982) term the type of work carried-out in hospitals, 'sentimental work'. This is necessitated by a work object which is alive and may respond, their response potentially forming a central component of that work. They identify seven types of sentimental work, which are summarised below:

1. Interactional work: orienting, explaining, introducing oneself, pacing the situation and upholding moral rules within the situation.
2. Trust work: spending time with the patient, talking to the patient, demonstrating competence, subtle gestures.
3. Composure work: helping the patient to retain or regain self-control.
4. Biographical work: gaining information about the patient's social relationships and social support; often involving giving out information about oneself.
5. Identity work: addresses psychological problems, maintaining the patient's identity in the face of extended and difficult illness.
6. Awareness context work: holding-back information about deterioration or probable/inevitable death.
7. Rectification work: the repair of emotional upset caused by another health care professional.

Sentimental work is required because of the patient's reaction to what is done to them: they thus demand, sometimes 'force' health care professionals to fulfil their emotional needs in order that 'instrumental care' may proceed.

In Intensive Care, either as a result of disease or trauma, or resulting from sedation, the patient is usually unconscious or semi-conscious. Nevertheless, nurses continue to talk to the patient, attempting to orientate them to their environment and treatment regimes: within Strauss et al's model this may be seen as interactional work (and composure work when the patient is semi-conscious). Identity work is also involved, as patients in ITU often suffer from 'ITU-syndrome', whereby they become disorientated and mentally confused. ITU nurses also do identity work around the patient to orientate themselves to the unconscious patient, that is, they actively seek to construct a 'personality' for their unconscious charge, largely on the basis of clues and cues from the patient's relatives: this helps them relate their care to a living 'subject'.

In ITU, the most overt sentimental work is carried out with patient's relatives (given the patient's lack of consciousness), in order to facilitate the relatives' co-operation in the continued instrumental work on the patient. In analysing sentimental work, Strauss, et al (1982), do not detect any structural divides - based on class or gender - around who does and who does not do sentimental work. Although they do mention in passing that nurses often do the majority of certain types of sentimental work, their position is essentially:

"Since, however, sentimental tasks get intertwined with other kinds of tasks, everyone may do some sentimental work in relation to carrying out technical tasks, or undertake or have forced on them sentimental tasks regardless of occupational position." (Strauss, et al, 1982, p.276)

This does not explain why some occupational groups spend much more time doing sentimental work than others and, indeed, that in some occupations

it is seen as an integral part of their role performance, while for others this is far from the case. Doctors saw nurses very much as the main communicators with the patient's relatives and, in general, nurses saw doctors as not being very sensitive (with significant exceptions) in their dealings with this group. As one Consultant Intensivist put it, doctors must remain 'more distant' since they are required to be 'more objective', in order to decide 'major policy directions' for the patient. We are reminded that the masculinization of rational knowledge in the form of the scientific model (Harding, 1981), is typified by an epistemological stance which may best be described as 'detached' (Bordo, 1986). On the other hand, the female nurse is expected to become subjectively, emotionally involved.

Doctors are expected to convey information to relatives about any major changes in the treatment or condition of the patient, while nurses are expected to give emotional support to relatives, reinforcing and explaining medical communications more simply and keeping them informed about the patient's general daily progress. In other words, doctors/men are in charge of imparting medico-scientific facts at the intellectual level and nurses/women are responsible for decoding such messages, rendering them intelligible and dealing with the emotional repercussions thereof. (This is not to deny that in practice there will be differences in style and degree of sensitivity shown by different doctors).

Although doctors reserved the prerogative in the explanation of intellectual data about the underlying condition of the patient and the

likely prognosis, both of which derive from their expert scientific knowledge, a nurse was almost always present, especially if this involved 'bad news' for the relative. As we have seen in the bodily division of labour, the nurse mediates in communications between various medical groups caring for different parts of the body. In the context of the emotional division of labour the nurse mediates between the doctor (who often has something difficult to say) and the patient's relative (who often has something difficult to hear). The willingness of doctors to leave the emotional content of the work to nurses, was mirrored by a willingness on the part of nurses to carry out this role, since they feared doctors would carry it out insensitively:

"It's very bad but doctors are notoriously bad at actually talking to people." (Senior Sister, Specialised Unit)

Relatives frequently felt similarly:

"I don't think doctors can really talk to people. . . all they know is medical facts and they can't even put them over." (Relative, Specialised Unit)

Often nurses felt that doctors frequently 'fudged' difficult issues with relatives in order to avoid emotional confrontations, being alternatively euphemistic, vague, obscure or leaving space for hope where there was none (this would be viewed by Strauss, et al (1982), as "awareness context work" - holding-back information about inevitable deterioration and death). The nurse would often make the situation explicit to the relative after the doctor had left:

". . . doctors quite often don't say what they mean, they say, 'well, you know, your mother's very poorly. I don't think we can really do much more. If anything happens now, we're not going to be able to get her back'. . . they haven't said, straight down the line, 'Your mother's going to die and it will probably be today', so quite often you have to." (Senior Staff Nurse, Specialised Unit)

". . . because sometimes doctors don't say what they should. . . they

tell some bits and not others. . . others still, although they're giving bad news they're still very hopeful, which you can't be if you're telling them 'we're going to withdraw'. . . we're more honest with them." (Sister, Specialised Unit)

Echoing the words of Oakley (1981b) concerning ethical issues in social research interviews, a Staff Nurse felt:

"I think you've got to be truthful and honest with them at all times and if they question you, its no use saying, you know, if they say, 'well, is my mother going to die?', you can't say 'well, you'll have to see the doctor about that'. You have to answer them truthfully, 'no, I don't think they will', 'there is a chance they will survive' or 'yes, I think there's a strong possibility' and everyone says it isn't the nurses' responsibility to tell the relative that their parent or whoever is going to die. It's the doctors' responsibility isn't it? But if someone asks you face to face, you can't say that."

Similarly:

"A lot of the time they'll openly ask you, 'well, are they going to survive or not?' and it's usually a nurse they'll ask that and in that case, then we may be the first person to actually tell them because you can't lie to them." (Sister, Specialised Unit)

It transpired, therefore, that in practice nurses were reluctant or felt unable (given relatives' questions) to leave doctors the task of disclosing distressing information. In general, the amount of 'new' information that the nurse was willing to give depended on how much nursing experience she had; the newly arrived nurses preferring to merely reinforce doctor-given information. In addition to their worries about whether and how 'bad news' would be conveyed by doctors, many nurses felt that their own experiential knowledge of the relatives enhanced their ability to carry out this role sensitively:

"When you've been nursing them for a few days you can really get to know them and the family and it makes it that little bit easier for you if you have to give them bad news. We never leave the doctors to do it, never, never, we wouldn't dare. We'd tell them, if anything before the doctor, because we do have that closeness. We are very close to the relatives, I'd say, very close". (Staff Nurse, General Unit)

Several of the nurses emphasised that 'closeness' - connectedness -

made the task easier, were it necessary to give distressing information:

(she begins by saying that if a patient comes from theatre and dies, and she has no social knowledge of them that this is less upsetting than the death of known-patients): ". . . you've no rapport with them. But, having said that, it's difficult to deal with the relatives like that because you've got no rapport with them either and it's very difficult to try and comfort somebody who you've never even met before. So in a way it's more upsetting when you know the patients and the relatives but in a way that's easier to deal with than those you don't know."

They felt they were more aware of the social context in which the communication would be received (having undertaken 'biographical' sentimental work at the bedside with patient's relatives) and felt they already had an established relationship with the relative (based on 'trust work'), which could assist both in this difficult situation. The length of time the patient had been on the Unit was obviously relevant to the amount of experiential knowledge the nurse felt she had about the relatives (in some cases where the patient was very short stay, the main continuity of relationship might be with doctors from the Admitting Team). Relatives often alluded to the social interest (biographical sentimental work/trust work) they perceived the nurses to have taken in them, for example:

"... and the nurses were so marvellous... so nice, so reassuring, so friendly. They treated you as if you were somebody belonging to them, not just a patient's wife or whatever. It was cups of tea. Cups of coffee. The one sat down at the side of me the one day and was chatting about my family and my grandchildren. . . It was lovely. That's what you need." (Relative, General Unit)

Patient relatives also did emotional work for each other, both within family groups and between families. Some interviewees were still in contact with friends they had made during this period.

The amount of information relatives received from nurses also depended on cues the nurse received from relatives about how much they 'wanted to know' in terms of detail or prognosis (see for example, Glaser and Strauss, 1964, in relation to awareness of dying). Waiting for cues from patients' relatives before giving further detailed information was not always positively evaluated by relatives and could be interpreted as rather grudging: some said that the nurses did not 'volunteer information', others stressed the need to 'persevere' in acquiring the necessary details. This presented difficulties for relative who did not feel skilled and confident in such matters.

Nurses underlined the ability of doctors to 'walk away from the situation', leaving any ambiguities and emotional miasma to be taken care of by nurses/women (this may be seen as 'rectification work' in Strauss, et al's, 1982 model), for example:

"... then it's the same old story, it's the nurses job to clear-up the mess afterwards. . . Quite often it's more harrowing for the nurse. They (doctors) can walk away but nurses can't. . ." (Senior Staff Nurse, Specialised Unit)

Thus, "the nurse is left to mop-up the tears" (Sister Specialised Unit). Doctors have used their techniques and if these have 'failed', this may be the point where they see their role as essentially at an end. This is reinforced by their epistemological stance being rooted in mind/body dualism and their essential province being seen as the body. Part of the role of the nurse, however, is the care of the dying, while the role of the ITU nurse is holistic, care of the whole person (they are not subject to the fragmented division of labour of the general wards). Given that medicine is a male sex-typed profession, this reinforces the

tendency to bequeath the care of distressed relatives to nurses, the vast majority of whom are women; and it is women who are primarily expected to offer emotional support in this society. The division of labour, therefore, replicates the social relations of the wider society and women/nurses are left to manage the ontological disjunctures of an epistemology which separates mind from body, intellect from emotions and one bodily system from another. Having said this, it is not only the division of labour that is determined by social relations, so too is the form taken by science and technology (since these are located in a particular historical and social context) and this is the subject of the next chapter.

CHAPTER 4

THE SOCIAL RELATIONS OF SCIENCE AND TECHNOLOGY

Classical sociologists, such as Comte, Durkheim and Weber, believed science to be an independent, objective form of knowledge which furthered the development of society. Merton (1949) was the first sociologist to look at science as a social institution. From his functionalist perspective, he saw science as asocial and independent, operating according to a set of prescribed norms which constituted a scientific 'ethos'. The Mertonian view of science has been termed 'the standard view of science' (Mulkay, 1979). It is the orthodox image of science held by lay people. This construction of science has become increasingly challenged. Kuhn (1970) points to the socially grounded nature of science, while Mulkay (1976) argues that the 'norms' and 'ethos' of science are better seen as an 'occupational ideology'. Other studies have examined the social aspects of scientific controversy (for example, Nelkin, 1979) showing that it is not a simple step to move from the 'evidence' to the 'decision': there is no necessary consensus on 'facts' and supposedly scientific decisions are affected by wider social and economic considerations. Drugs or chemicals, for example, may be banned in one country and not in another, 'safe levels' of any given substance in the body varies over time and between different countries. It becomes clear that:

"... science was 'achieved' through social and technical negotiation, interpretation and recognition, just as other systems of knowledge are" (Webster, 1991, p.13)

Over and above this there has been a fundamental critique of 'objective' science by feminists, Marxist and neo-Marxists. The feminist critique

of science (see, for example, Easlea, 1981; Lloyd, 1984; Cockburn, 1985; Rose, 1987, 1988) was discussed in the previous chapter.

The Marxist and neo-Marxist critique argues that science is knowledge generated to aid capitalist production and capital accumulation, and is also facilitative of the maintenance of social control by promoting the current social order. Furthermore, the dominant mode of production of scientific knowledge under capitalism involves its production in a commodified form; marketable as a cash value. Such that: "The market in scientific goods has its laws and they are nothing to do with ethics or norms. . ." (Bourdieu 1975, p.40) Medical technology, including pharmaceutical products, are produced by commercial companies which are driven by profit motive. Their interests lie in promoting the widest possible use of these commodities at the highest possible return on investment. They employ aggressive marketing techniques which may include, for example, the financial sponsorship of Consultants attending prestigious international conferences at which their wares are displayed.

There has been some disagreement amongst Marxists about the degree of potential optimism or pessimism with which science should be viewed. Bernal (1939) argues that despite science generating profit and being used in the maintenance of State power, it remains ultimately in contradiction with capitalism, since it carries the potential for human-good. More pessimistically, the Frankfurt School of critical theorists hold that the domination of nature involved in the scientific enterprise, extends itself into the political domination of the masses.

The oppressive nature of science and technology under capitalism is reflected not simply in the commodities produced, but the ideological role played by scientific theories in the maintenance of existing power relationships. Marcuse (1964) describes the extent to which technological rationality has pervaded the social world. He sees science and technology as a particular mode of rationality aiding human oppression by reducing political questions into technical issues (which must be resolved by experts). This position is also reflected in the writings of Habermas (1971) who sees technology and science as 'ideology'.

Technological rationality is promoted as the ultimate rational discourse. Scientific and technical knowledge are elevated to a level of status-authority which defies legitimate criticism. It is not simply one way of looking at an issue, it is 'the truth' of the matter, based on 'the objective facts' of the situation. The apparently 'impersonal', 'neutral' rationality of science, extends into the administrative sphere in the form of Weberian notion of 'bureaucratic rationality'.

Bureaucracy is typified by a close documentation of events, a minute division of labour where the sphere of competence of participants is closely defined and hierarchically organised; allowing legal-rational control to be exercised. As Gorz (1976, pp.62-63) states:

"Hierarchy in production and society over all can be preserved only if expertise is made the preserve, the privilege, the monopoly of those who are socially selected to hold both knowledge and authority."

When applied to medicine, this hierarchical approach serves to discount the non-expert knowledge of, for example, pregnant women (see Jordan, 1986). Their experience will, in any case, be seen as subjective and,

therefore, tending towards 'unreliability' within the epistemological framework of 'scientism'. In Obstetrics, the experts in giving birth are no longer women themselves but Obstetricians. Within Intensive Care likewise, expertise in dealing with critical illness becomes embedded in high-technology, a construction impenetrable to the patient's close-relatives. Habermas (1971) has criticised the tendency of handing over self-understanding to technical-experts, involving the de-politicization of issues and the mobilization of a 'neutral' technical rationale.

Scientific theories can be seen simply as forms of language which provide an interpretation of the world (Nietzsche, 1974); such that there are no 'facts' but only interpretations. The form that scientific language takes is, however, significant. The separate language used by science to encode its world-view forms a semantic barrier, representing a power divide between scientists and lay-people (Gorz, 1976). The exclusivity of such encodement serves to mystify rather than enlighten the uninitiated. Similarly, Rose and Rose (1976) point-out that, the choice of words used to express activities addressed by technological ideologies are indicative of the inherent power-game agenda: the 'conquest' of space, the 'modification' of weather, the 'exploitation' of natural resources, the 'control' of brains and behaviour. We may add to these the 'management' of labour, remembering that management ultimately is neither an art nor a science but a command relationship. Evelyn Fox Keller (1985) has termed this a 'male choice of theory' which stresses principles of domination and aggression. She cites the DNA molecule which is termed the 'master molecule' determining the structure and processes of life and points-out that feminist geneticists have

posed a more holistic less hierarchical model of the organism and the role of genetic structures within it.

Lukes (1974) has emphasised the impact and power of non-decisions on eventual outcomes, i.e. it is a political decision to decide not to address certain questions or posit certain possible solutions.

'Science' is functional to capitalism and patriarchy in addressing some questions rather than others, whose terms of reference would widen the debate to challenge fundamental social relations. For example, the majority of diseases have social, economic and environmental causes and are, therefore, best addressed through preventative health strategies (Doyal 1979, Townsend and Davidson 1982). Many such strategies would, in practice, prove unacceptable to capital or patriarchal interests, since they would involve a restructuring of the productive and domestic labour processes in such a way that the profit motive and the interests of men were not supreme. They would thus require a wholesale redistribution of power and wealth within society in favour of the less privileged. Addressing this issue in terms of capital, Doyal (1979, p.297) comments:

"Consequently health itself has come to be defined in terms of the needs of capital accumulation and . . . health objectives will not be pursued if they conflict with profit - as ultimately they must."

This includes the capital accumulation of drug and medical equipment companies and, for example, the tobacco industry whose profits are directly linked to ill-health but whose revenues to Government coffers counteract the N.H.S. revenue consequences of smoking. It is, therefore, less disruptive to the existing power relations and more

economically profitable to seek salvation from illness and disease through a 'technological-fix'.

Although it is undeniable that medical science and technology have made a substantial positive input to health care, the size of that contribution has been considerably over-estimated, while their iatrogenic effects have been greatly under-stated. The greatest benefits to health have resulted from public health measures and improvements in nutrition, limitations in family size, and so on. In terms of social control, however, the interests of capitalism, patriarchy and the medical profession coincide to frame the debate in terms of (male) medical heroics; in this way these groups keep and enhance their power.

Technology, which is applied science, is the product of specific design-goals and reflects the social relations of capital and patriarchy. The practical problems technology addresses are determined by the political, economic and social context not by the direction of the particular science. The outcome of technology design reflects and reinforces the interests of some social groups rather than others. This is because technology embodies certain assumptions about the nature of 'reality' (for example, much medical technology, as we have seen, proceeds on the basis of mind-body dualism and the body as a machine - derived from Cartesian dualism). Thus, it is designed with certain aims, goals and targets in mind:

". . . medical care as we know it - i.e. as it has developed in capitalist society - is not just an unambiguously useful commodity like asparagus or shoes or swimming lessons. Like many other more complex commodities, it is thoroughly permeated with capitalist priorities and

capitalist social relations. Not merely the distribution, not merely the transaction between doctor and patient, but the medical technology itself (which is based on certain assumptions about the nature of disease processes, the causation and cure of disease, the relations of individuals to their own bodies and to social processes) embodies the social relations created by capitalist society. . ." (Ehrenreich, 1978, p.16)

This understanding of technology does not imply technological determinism but suggests that technology does set some limits, the scope of which are not socially neutral. For example:

". . . assembly line production techniques and machinery assume and reinforce the separation and antagonistic relation between mental and manual labour; and so forth" (Ehrenreich, 1978, p.17)

Ehrenreich continues by pointing-out that this may be less evident in relation to medical technology:

"For one thing, an unusual amount of mystery surrounds the technology, the result in part of doctors efforts to keep their knowledge esoteric; for another, the presumably benevolent purposes of medical endeavor prove an unusually opaque disguise for the sometimes antagonistic social relations built into it." (Ehrenreich, 1978, p.17)

In capitalist society it is the owners of the technology (the means of production) used in the productive sphere who are empowered by technology design and those who work with it disempowered. The issue is one of control. Control is the mobilisation of power. Social relations determine the division of labour around technology and, since technology also embodies social relations, technology will be one site in the struggle for control within the labour process.

". . . if capitalism is to survive, each succeeding generation of workers must stay in an appropriate relationship to capital: the relations of production must be reproduced. Workers must not step outside the relation of the wage, the relation of property, the relation of authority. So 'reproducing capitalist relations' means reproducing the class system, ownership, above all reproducing a 'frame of mind'." (Cockburn, 1977, p. 56)

In medicine the dominant group are doctors, in terms of both social

class (often combined with gender-derived or race-derived power) and recognised 'expert knowledge'. Subordinate to this controlling group are both the Intensive Care Nurse/Midwife and the patient/birth partner/relatives. This subordination will be built into and reinforced by the nature of the technology and the way the superordinates would prefer it to be used. There will be some re-negotiation, for example, around the use of fetal monitors and the results they produce, by some subordinates, representing a 'fight-back' in terms of wresting back some power and control within the labour process. Technology represents a central focus in this endeavour, since its use is integral to the division of labour and policy implementation in both ITU and Obstetrics.

The Social Relations of Technology in Context

We have seen that social relations, often antagonistic, are embedded in technology and surround its use. Such social relations are expressions of the power relations which structure society. Technology reinforces the power of 'the expert', since it involves a hierarchy of competence and decision-making power (Jordan, 1987). Experts are seen as especially, sometimes uniquely, qualified to judge the merits of situations. The corollary of this for the 'non-expert' is the mystification of human agency, the masking of 'uncertainty' and a de-skilling and dis-empowerment of their own autonomous human responses.

This section will take as its prime focus the use of technology in Obstetrics. This focus is emphasised because 'patients' are conscious, supposedly consenting, usually in good health and are participating in

an event which is generally defined as 'happy' and 'fulfilling'. It is interesting to consider, therefore, the social relations of technology use against this more socially positive backdrop.

The management of birth by the application of science and technology, is part of the process whereby technology, and the positivist, behaviouristic model of the world on which it rests, is seen as the only rational response to social life (Marcuse, 1964). Within the biomedical model, birth comes under the ownership of (male) 'experts' and sociocultural factors are seen as either neutral or an inhibiting force to the appropriate care of the childbearing woman (McLain, 1983, Scambler, 1987). We have already seen that the epistemology of 'scientism' relegates the 'subjective' to the sphere of the unreliable.

This causes obstetricians to comment, for instance: ". . . people get funny ideas about how they want to have their babies. . ." (Consultant Obstetrician, Obstetric Hospital)

We have seen that, stretching back to the Renaissance, 'science' was equated with 'Reason' - and both 'Reason' and 'science' were depicted as cognitively 'male' (see, Easlea, 1981; Lloyd 1984; Cockburn 1985).

The task of science was to control and order the chaotic threat of Nature which was conceptualized as female (Lloyd, 1984). Marcuse (1964, p9) taking-up the theme of 'science' as 'Reason' comments:

". . . in the contemporary period, the technological controls appear to be the very embodiment of Reason for the benefit of all social groups and interests - to such an extent that all contradictions seem irrational and all counteraction impossible. . . The intellectual and emotional refusal 'to go along' appears neurotic and impotent."

The failure 'to go along' with what is suggested in pregnancy and birth, will certainly be seen as a wilful, neurotic and selfish act by the mother and detrimental to the child she is carrying. For example:

"Obviously, I'm very sympathetic to the mothers as well but possibly I have more sympathy for the babies. . . . we have to consider the baby, I think some mothers, a small minority, see childbirth as a personal experience for them, rather than as a start of life for somebody else and I think they may have a rather selfish outlook upon it. . . . The baby needs an advocate sometimes." (Consultant Obstetrician, Obstetric Hospital)

" . . . they want to get away from so called high-tech obstetrics. . . . And my own personal feeling is, that any mother who wants to have her baby at home is having it for her benefit and to her it's a purely selfish experience. . . my own personal feeling is that if a mother wants her baby in her home now, she is putting the baby at risk, unnecessary risk, for her own self-satisfaction, O.K?" (Consultant Obstetrician, Obstetric Hospital)

Arney (1982) has pointed to the emergence in Obstetric literature from the 1950's of the baby as the 'second patient' and the extent to which this has been facilitated by the emergence of technology which aids the direct surveillance of the baby as well as the mother. Embodied in the Consultants' comments is a construction of the mother and baby as in opposition to each other. Of course, dilemmas may arise where the interests of the mother and the baby may not be the same but this depiction seems to involve a more fundamental conflict of interest between the woman and the child she is carrying. Why should this be so? First, it is necessary to consider why the mother is being seen as 'selfish'. She is not seen as selfish if she rushes for pain relief (which may have iatrogenic effects). She is not seen as selfish if she gives health care professionals a 'free-hand' in the use of other medical technologies on her body, despite the efficacy and safety of some techniques remaining unproven. This is, at least, consistent since such circumspection on the part of the woman would imply that she was the best advocate for her baby but we have already seen the Obstetrician has claimed this role for himself. The mother is construed as 'selfish' because she resists the view, held by the majority of obstetricians,

that high-technology birthing is the safest option. The question emerges as one of control (like the subtext of Wendy Savage's (1986) defence of her own practice): "who controls childbirth?". To press his (sic.) claim based on expertise and technology the Obstetrician will enlist the baby against the mother.

Pregnant women in my study displayed a basic acceptance of the medical model of birth and expected to experience a labour with some degree of technological intervention; although a few commented they wanted it to be 'as natural as possible'.* The vast majority expected to need some form of artificial pain relief (only 3 of the 20 intended to try and cope without such relief - see Appendix IX for full details). In the event none did. This is a highly technologized model of birth. Interviewed antenatally nearly half the women hoped to labour with external monitoring, in practice only two of the twenty did so. The organisational culture predominantly promoted internal monitoring. It was often a corollary of some other treatment, usually pain relief or the acceleration or induction of labour. Those wanting to be monitored externally often appeared to be repelled by the very 'internal' and invasive nature of internal monitoring (whereby a scalp electrode is attached to the baby's head via a lead running through the woman's vagina). One woman expressed this graphically:

"I felt I was invaded (by internal monitoring during her last labour). . . at the time I felt I wanted to do it all myself and not have anything, any sort of invasion or anything like that." (Antenatal Interview)

* What they meant by this is itself problematic and will be considered later.

Similarly:

This woman feels 'invaded'; an 'invasion' from an invasive technology.

"I hated that (internal monitoring), I felt like I was bionic. Like I wasn't a human being" (Antenatal Interview)

Why does this woman feel less than a human subject? Since electronic monitoring is essentially located in the positivist/behaviourist mode (concerned with those aspects which can be mechanically described and measured), such technology works towards the 'objectification' of the patient. This occurs by surveillance and 'measurement' of the patients 'vital signs'. Deriving from the Sartrean notion of 'being for self' the 'struggle for freedom' is lost when one allows oneself to become objectified in the eyes of another. Foucault (1977) has pointed to the control achieved by locating an individual in a 'field of visibility' and Arney and Neill (1982) have applied this notion to maternity patients. Electronic monitors have considerably extended this process, since they make visible, on a continuous basis certain internal workings of the body. This may lead in labour, for example, to the midwife telling the labouring woman: 'you're starting to have a contraction now, start breathing' rather than allowing her to apprehend this for herself through her own body. This may cause the woman to doubt the integrity of her own body to 'know' how to give birth. Similarly in ITU, patients discharged from Units often experience anxiety and mistrust their own body's ability to continue functioning efficiently without the support of technology.

Associated with this doubt in the integrity of her own body to give birth without technological assistance, the labouring woman may also experience some difficulty in moving repeatedly between the 'natural' discourse and the 'technological' discourse. In the 'natural' discourse, she is primarily responsible for her body and coping with the labour. In the 'technological discourse', control and responsibility lie primarily with the medical experts. During the course of a labour, she may be required to move between these two discourses, perhaps on more than one occasion. For example, having laboured for a certain amount of time, she may decide to have an epidural fitted. This may not work well and she may have to again try to cope from her own resources. The staff may then get the epidural working effectively and later tail it off in order to let her try to push the baby out herself.

To pursue this a bit further, many women believed that an epidural would inevitably remove all pain. This view was often reinforced by the staff who tended not to discuss fully the 'downside' of pain relief. A

Consultant Obstetrician commented:

"Then you would discuss the epidural. Very few people don't know what an epidural is. But you would say what it is, you say 'it's an injection in your back, once you give it then your pains disappear'"

However, 'pains' do not always 'disappear'. Crawford (1972), for example, found that 5% of epidurals fail completely and relief is incomplete in 15.4% of women and Doughty (1975) found a failure-rate of 8%. More recent research (Moir, 1982) suggests 4-7% of women given epidurals will be left with one or more spinal nerves unaffected. As Inch (1982) has pointed out, women can be psychologically devastated to find that they are left with pain when a pain-free labour has been

promised. One woman interviewed received no pain relief from her epidural after the first half an hour. Another suffered considerable pain and believed that the catheter delivering the epidural had fallen out during the course of the labour, while one woman who was induced and advised to have an epidural for raised blood pressure described her labour in the following way:

"Then it (the epidural) only took on one side. . . and they were busy trying to right that by tipping me on my side. There was a drip to make the contractions, I don't know what was in it and they came really, really quickly and that was pretty awful. The trouble was I could feel these contractions and they came so fast I got really het-up about it and distressed. . . so they gave me a long break before going into the second stage, which was probably the best bit really. The rest was pretty awful. The actual delivery was OK, except I couldn't get him out (laughs). It had to be the forceps in the end which I didn't mind. They said 'You'll have this baby one way or another!'. . . I found the whole thing pretty horrible really." (Postnatal Interview)

Several women with epidurals whose labours I attended seemed to suffer some degree of pain, although they often reported this as slight and it was frequently remedied by re-positioning the woman. One woman complained of considerable pain on one side of her abdomen. She appeared to experience more difficulty coping with this development than she had with the pre-epidural pain. Once the epidural was in place her expectation had been that she would suffer no pain. She was now unable to move into a more comfortable position, while agreeing to the epidural had in some ways represented the handing over of the labour to the medical staff. Since the pain remained, she now had to take this back again and attempt to deal with it herself (while the staff continued to attempt adjustments). For women, this process involves moving between two different discourses: the 'natural' and the 'technological' and back again, and is difficult to achieve. These are different models of the world, which place the woman in a different relationship to her

environment and the people around her. The staff too work on the principle that if the woman has an epidural she should feel no pain. Rectifying epidural malfunctions becomes a central focus of interaction for the remainder of the labour where these occur. Thus, the focus shifts to the technology. Furthermore, epidural analgesia prevents reflex stimulation of the perineum and reduces or eliminates the mother's urge to push in second stage. It also causes the pelvic floor muscles to become flaccid so that they do not guide and rotate the baby's head towards the correct position for birth; natural rotation and descent is, therefore, inhibited and the need for forceps assistance is greatly increased (Hoult, et al, 1977, Studd, et al, 1980). Goodfellow, et al (1983) argues that an effective epidural also inhibits the stimulation of the pelvic autonomic nerves as the birth canal is distended, reducing the natural release of oxytocin, thereby reducing the force of uterine contractions. Against this backdrop:

"... someone's got to get the knack of pushing without feeling it."
(Senior Sister Midwife)

Pushing (and, indeed, pushing hard enough and in 'the right place') without the presence of an expulsive urge is not to be under-estimated:

"It (the epidural) worked too well because I couldn't feel the contractions to push (laughs). I ended up having forceps. They'd say 'that's right, do it again' but I didn't know what I was doing, it was really difficult." (Post-natal interview)

Attempting to tail-off the epidural at second stage, to allow sensation to return was not always the answer. Women were often unable to deal with the return of pain in this more severe form, having been 'pain-free'. This again represents moving between discourses, from the 'natural' to the 'technological' and then back again; from being under technological control to attempting to be in self-control. This

ontologically fractures the woman's experience of giving birth. It is often not possible to put 'humpty-dumpty' back together again:

"And I was in such pain after not feeling any and they'd sped up the contractions and I was in agony and I was being sick. And then they couldn't find the Anaesthetist. If I could have walked I'd have killed someone honestly". (Postnatal Interview)

One woman in second stage with an epidural fitted commented rather plaintively: "I am glad I am pushing, it's like you're participating".

There may also be a mystification of agency surrounding technology: Epidurals may cause a drop in maternal blood pressure (hypotension), which may in turn lead to decelerations in the fetal heart rate. These may be more pronounced if oxytocin is being used to accelerate the labour (Lieberman, et al 1979). This becomes more likely, since an epidural tends to prolong labour if it is not already well-established (Rosen, 1977). During one observed labour where the above events appeared to be unfolding, such 'technical problems' were attributed by the midwife to the idiosyncrasy of the baby: 'it doesn't like that' she said several times in relation to the baby's response to the syntocinon: 'it must be a boy causing this much trouble!'. She later pronounced that the baby was 'playing with us', rather in the manner of the whale in *Moby Dick*, since it manifested a deceleration each time the syntocinon was turned-up. She also accused the baby of being 'troublesome' when a uterine pressure catheter fell-out. This ruse seemed to be intended to 'lighten' the atmosphere but also served to further mystify agency within the situation. The problems had arguably been set in train by human intervention using technological initiatives. This particular mother, as was evident in other cases, used further

interventions (that were arguably associated with the use of epidural anaesthesia) as validatory of the decision to have an epidural, i.e. when the second fetal blood sample was being performed (a blood sample taken from the fetal scalp to test for the level of oxygen in the blood - to check the level of fetal distress registering on the fetal monitor), she steadfastly intoned: 'I'm glad I had an epidural'. Thus signifying that further interventions may be seen as confirmatory of the initial decision to have an epidural and not as a possible critique.

Having said this, it must be stressed that several women in the study remained extremely grateful and positive post-natally that they had opted for epidurals regardless of the type of delivery they had experienced and said they would do so again. One added:

"They'll be no hanging around, I'll just go straight in and say 'I want an epidural'" (Postnatal Interview)

One woman, in fact, described the epidural itself (rather than the birth) as: "a beautiful thing" and although she was frustrated about "not being mobile", this comment addressed the post-delivery situation when her legs were still numb, rather than her desire to move about in labour. Another woman said she had an epidural in order to keep control:

". . . I thought I might have some Entenox, although in the back of my mind I'd always thought I might have an epidural because I didn't want to lose control." (Postnatal Interview)

Kitzinger (1987) mentions women opting for epidurals to maintain or reassert control (using drugs to reassert control was also a strategy used by staff in ITU) or because they feared losing control. She reports that they later felt out of control as a result of this

decision, given that they found this choice entailed other interventions.

Arney (1982) maintains that continuous electronic fetal monitoring places the labouring woman under more direct surveillance by the obstetrician and, therefore, she is under greater control. It also places midwifery practice under greater surveillance by super-ordinates (and, therefore, potentially more readily under their control), since all treatment must be recorded on the monitor print-out (this does not apply to Intensive Care), alongside fetal and maternal physiological readings. Recording all treatment on 'the trace' (monitor print-out) made the midwives' practice all the more visible to the doctor. Doctors entering the delivery room would always view 'the trace' if one were available (as was usually the case at the Obstetric Hospital). One doctor, in particular, tended to walk into the Delivery Room, look at the trace and walk out again without speaking to either the midwife or the woman in labour. During observation, another doctor walked into the Delivery Room, leaving the presence of the labouring woman and the midwife completely unacknowledged, he looked at the trace and said "Nice!" and then walked out again:

". . . it's like a recording. So when the doctors come. . . usually the trace is the one they will want to see. . ." (Staff Midwife)

A Sister Midwife sums-up this situation:

"And most people when they come in, tend to go and look at the print-out of the machine and ignore the mother because it gives you everything that's been happening and you're looking at the baby."

Here, 'Everything that's been happening' is narrowly and positivistically defined, while 'the baby' becomes: the fetal heart rate reading. Simultaneously, the trace may undermine the authority and power of the midwife. The doctor is able to bypass her (this will happen to varying degrees in practice) and gain information directly from the trace not only about the physiological behaviour of the mother but the conduct of the midwife. In practice, information has always been available to doctors from the patient's medical notes but data in the form of a trend print-out (which the trace represents), annotated with all treatment and observations represents a highly visible and accessible (legal) document. The comprehensive nature of the obstetric trace, therefore, means it can be used for the surveillance of the midwife's practice as well as the patient's performance. Thus, it is a form of Obstetric control which bears on the midwife as well as the labouring woman.

Within capitalist society, manufacturing shop floor assembly line production techniques and machinery assume and reinforce the separation and antagonistic relation between mental and manual labour. As we have already seen, much chemical pain relief used in obstetrics operates on the basis of mind body dualism either dissociating the mind from the body (Pethedine) or the body from the mind (Epidural Anaesthesia). This in effect also represents a separation of mental and manual labour. Chemical pain relief is also an external agent of coping, de-emphasising the ability to cope from one's own natural resources and the emotional support of others. To use routinely a technical system which acts as a substitute for the women's ability to cope in labour (and with

an epidural, this will reduce the chances that she will be able to deliver her child herself without the use of Obstetric instruments); is an expropriation of women's creative powers at a fundamental level.

Cooley (1976, p.74) writing of the expropriation of skills into technological power on the manufacturing shop-floor has this to say:

"This science, as it manifests itself to the workers through fixed capital, although it is merely the accumulation of the knowledge and skill now appropriated, confronts them as an alien and hostile force, and further subordinates them to the machine. The nature of their activity, the movement of their limbs, the rate and sequence of those movements - all these are determined in quite minute detail by the 'scientific' requirement of fixed capital'. Thus objectivised labour in the form of fixed capital, emerges in the productive process as a dominating force, opposed to living labour. . . now this life no longer belongs to them but to the owner of the object."

Here one could equally be talking about the woman in labour attached to a battery of instruments and machines, immobilized, her pain anaesthetised and her labour being 'adjusted' according to a previously determined schedule of what is considered 'efficient' and 'normal'.

Might not, under such circumstances the women feel that her labour is no longer her own but belongs to the 'owner' (professionally) of the means (technology) by which the labour is being conducted? In this way Obstetricians might be seen to have colonised childbirth in the truest sense of the word, not just taken over much of the work of the midwife.

Technology, therefore, is a control resource which may be aimed towards securing predictability and compliance within a labour force and labour process by the dominant group (in both Obstetrics and ITU, the doctors). This is associated with a standardization and routinisation of events - in this case birth and death. Technology will be designed to encourage passivity and visibility of the patient (Arney 1982, Arney

and Neill 1982) and visibility and compliance of subordinate staff behaviour. Technology is also used in social closure around occupations (Witz, 1985), its use often forming part of the boundaries around occupations. This may be seen in Obstetrics where who is allowed to use certain technology is an integral part of the normal/abnormal divide, for example, forceps are exclusively used by doctors.

Certain conclusions arise from this analysis. As we saw earlier, Odent (1984) has claimed that women give birth with fewer complications and greater satisfaction if they are allowed to contact the primitive instincts which lie deep within themselves. The social relations of obstetric technology are likely to represent some considerable disjuncture from instinctual birthing. Strauss, et al (1982), pointed out that health care professionals were often required to do 'sentimental work' in order to facilitate carrying-out of their instrumental work. They may be less inclined to admit the value of 'instinctual work', since this can only be carried-out by 'the subject' and so is outside the control and jurisdiction of the Obstetrician and may indeed threaten their role by making it obsolete (in the individual case). This is to make central the patient as 'subject', rather than the patient as 'object'.

Significantly, Marcuse (1964, p.72) points out that not all energy saved by machine power (technology) is labour power (physical and mental labour). Libido, the energy of the life instincts is also saved or barred from its previous modes of realisation. This may well be applied to childbirth and the inability to realise 'instinctual energy' for

'instinctual birthing' in the wake of medicalization and technologising. Marcuse (1964, p.73) acknowledges that the pre-technological world would have been full of misery, toil and filth but:

"... still there was a 'landscape', a medium of libidinal experience which no longer exists. With its disappearance... a whole dimension of human activity and passivity has been de-eroticised... The environment from which the individual could obtain pleasure, which he could cathect as gratifying almost as an extended zone of the body has been rigidly reduced, consequently, the 'universe' of libidinous cathexis is likewise reduced. The effect is a localization and contraction of libido, the reduction of erotic to sexual experience and satisfaction."

It is thus that he compares sex in a meadow to sex in an automobile, a lovers walk in the countryside to that in a Manhattan Street:

"In the former case, the environment partakes of and invites libidinal cathexis and tends to be eroticised."

Kitzinger (1987, p. 9,) has described childbirth as a psycho-sexual act:

"For quite apart from pain it involves intense, urgent and incredibly powerful physical sensations of pressure and opening and overwhelming emotions."

It is clear that libidinal cathexis of this instinctual life energy is less likely to be achieved in a highly clinical, technological setting and least of all paralysed from the waist-down (during an epidural).

Furthermore, the biomedical approach is ultimately antagonistic to notions such as instinctive birthing given its positivistic core:

"The metaphysical dimension, formerly a genuine field of rational thought, becomes irrational and unscientific... non-operational ideas, aspirations, memories and images have become expendable, irrational, confusing or meaningless." (Marcuse, 1964, p.173-187)

Rather, the social relations of the medical technology employed involves male dichotomies of the subject and object, mind and body and the emphasis on the need for an 'expert technician' - the doctor. The biomedical model is based on empiricism, arguing that labours are

only 'normal' in retrospect (when they have proved themselves to be so). The uncertainty that this engenders (given the potential unpredictability in individual cases) leads to the proposition that: all must be subject to the same regime. This is put forward as the technically rational way to proceed. Women who do not wish to accept what is routinely offered are likely, therefore, to be viewed by the majority of obstetricians as recalcitrant and/or neurotic and irrational. In this sense, Marcuse points-out, society alters the relation between the 'rational' and 'irrational'. Liberty is extended, since technology frees women from extreme pain in some labours or the prospect of a previously unavoidable death, while domination is intensified, given that the nature of the technology is itself repressive (as are the social relations between those who professionally 'own' the technology and those who labour with it) and the fact that it is often used routinely:

"Inasmuch as the greater liberty involves a contraction rather than extension and development of instinctual needs, it works for rather than against the status quo of general repression - one might speak of 'institutionalized desublimation'. The latter appears to be a vital factor in the making of the authoritarian personality of our time." (Marcuse, 1964, p.74)

Conclusion

Thus, authoritarian relations are facilitated by the pervasiveness of technological rationality within capitalist society which preconditions "the organism. . . for the spontaneous acceptance of what is offered" (Marcuse, 1964, p.74). Marcuse describes as the 'happy consciousness' the belief that 'the real is the rational'; that what exists is what

should exist. There is an inability to conceive of an alternative (greatly fostered and reinforced by 'the expert'); this is a feature of hegemony as described by Gramsci (1971) and other Marxists in this tradition, for example, Mann (1973). Marcuse (1964, p. 1) links this with discontent being 'bought-off' by technological 'progress':

"A comfortable, smooth, reasonable, democratic unfreedom prevails in advanced industrial civilization, a token of technical progress. . . In this universe, technology also provides the great rationalization of the unfreedom of man and demonstrates the 'technical' impossibility of being autonomous, of determining one's own life. For this unfreedom appears neither as irrational nor as political, but rather as submission to the technical apparatus which enlarges the comforts of life (and increases the productivity of labour)."

Autonomy has given way under pain relief (see also Illich, 1976). Many women and experts now strive for childbirth with as little pain as possible or, indeed, the 'painfree' labour (of the epidural or the general anaesthetic). This is to gloss over the fact that such labours are scarcely pain-free, since the interventions may either involve pain (or may be followed by pain) and may lead to further interventions. There is also often a failure to acknowledge that childbirth can be enjoyable with little or no pain relief. At the same time, that which may be desirable in specific cases may be highly undesirable applied routinely? How has this degree of medicalization come about? And, how has it developed in the two areas under review? Furthermore, what role has technology played in this process?

CHAPTER 5

MEDICALIZATION AND THE TECHNOLOGICAL COLONISATION OF THE BEGINNINGS AND ENDS OF LIFE

Once a society is so organised that medicine can transform people into patients because they are unborn, newborn, menopausal, or at some other 'age of risk', the population inevitably loses some of its autonomy to its healers. The ritualization of stages of life is nothing new; what is new is their intense medicalization." (Illich, 1976, p.86)

Birth and death used to be located in the home and in the community. Now they are private affairs 'locked' away in hospitals. Enclosed in these hermetically sealed environments, they have been pulled-out by the roots from everyday experience. They have been withdrawn into the province of the professional carer and the medical model. How is it that the beginnings and ends of life have become medicalized (Zola, 1972; Illich 1976) in this way? Technology, often used on a routine basis, plays a key role in this process. It is in medical science and technology that we are encouraged to seek individual salvation, rather than changing many of the social practices (aligned with powerful vested interests) that cause ill-health (see, Townsend and Davidson, 1982). Medicalization often serves to regulate what it cannot 'cure'. Birth and death are an inevitable part of life; medical technology is used in the procedural standardization of these events.

The process of technologizing around birth and critical illness/death is considered in the context of the historic and contemporary struggle over who controls childbirth and the establishment and development over time

of the ITU provision. Technology has been central to the transformation of childbirth from a women-dominated area to one controlled by (predominantly) male obstetricians. Technological development has also been fundamental to the creation of the Anaesthetists' ITU 'empire'. Thus, medical technology has been integral to the process whereby doctors have furthered their professional interests and extended their control over health care subordinates and patients.

It follows, therefore, that the 'technologizing' of birth and critical illness/death has been intimately connected with the increasing

'medicalization' of experience: ". . . people come to believe that in health care, as in all other fields of endeavour, technology can be used to change the human condition according to almost any design." (Illich, 1976, p.82)

'Medicalization' is a critical concept emphasizing the medical enterprise as not merely 'scientific' but social (Zola, 1972, Illich, 1976). It represents the mobilization of the medical model in the social world. The medical profession's jurisdiction over evermore areas and conditions has extended considerably beyond its demonstrated capacity to 'cure' them (Freidson, 1970). This has variously been associated with 'medical imperialism' (Illich, 1976), a reliance on scientific experts, stemming from an increasingly technical and bureaucratic society (Zola 1972, 1975) and the desire to create and control markets (Larson, 1977). This has certain effects. Both the meaning and interpretation of an experience is transformed when it is seen in terms of the medical model, as either a disease or a syndrome (Freidson, 1970). Defining either conduct or physiological functions - for example, pregnancy, menstruation, manifest psychological distress - in terms of medical

symptoms and labels, serves to define and control behaviour; and influences the perceptions of what is occurring both for the 'sufferer' and those close to them. It allows doctors to become "moral entrepreneurs" (Illich, 1976, p54), moral power-brokers, able to legitimize the moral status of the individual in various ways, for example, whether the pain they feel is 'real', whether they are 'fit' to work, whether they are 'dead' (the latter comes to the fore in a particularly contentious and technological form in the area of 'brain-death'- see chapter 7). Medicalizing problems and encoding them in a mystifying medical language, also removes them from the public debate (Conrad and Schneider, 1980). Thus, medicalization, as well as furthering the professional interests of doctors, also serves the political interests of capital and patriarchy. An aspect of this is the market it provides for the accumulation of capital based on the sale of medical products (see Waitzkin, 1990).

Medicalization may inhibit people from developing skill and autonomy both in coping with suffering and responding and relating to bodily changes in personally meaningful terms. In short, they may allow experts to define human experience and in so doing lose this ability themselves (Illich 1976). Illich argues that the impersonal medical mode of defining and 'dealing' with 'problems' works against the development of wider compassion and a personal, tender response to suffering on the part of the wider community. The latter mode Illich terms "compassionate tolerance" (Illich, 1976, p.117) and may be compared with "repressive tolerance" which, Marcuse (1964) associates with the technical mode with which the medical model is linked. Thus,

whereby individuals and communities become unable to define and care for themselves. It is a process which he sees as promoting dependency, lowering levels of tolerance for discomfort and pain, and de-skilling and de-legitimising possibilities for self-care:

"Social iatrogenesis is at work when health care is turned into a standardized item, a staple; when all suffering is 'hospitalized' and homes become inhospitable to birth, sickness and death; when the language in which people could experience their bodies is turned into bureaucratic gobbledegook; or when suffering, mourning and healing outside the patient role are labelled a form of deviance." (Illich, 1976, p.49)

1) The Management of 'Risk'

These days, even when one is nominally 'healthy', one becomes defined as medically 'at risk' of contracting various diseases. It is not so much that 'we are all middle class now' as 'we are all hypocondriacs now: dogged by skin cancer, heart disease, aids or the latest medical moral panic. "Well Men" and "Well Woman" clinics have now become a part of everyday life. These are part of the drive towards the proliferation of 'preventative' screening techniques. Illich (1976, pp.97-129)

maintains of this trend:

"People are turned into patients without being sick. . . until proved healthy, the citizen is now presumed to be sick. . . Health has ceased to be a native endowment each human being is presumed to possess until proven ill and has become an ever-receding goal to which one is entitled by virtue of social justice."

The culmination of medicalization is that one has to go to visit a doctor for him/her to 'diagnose' you as 'healthy'. The individual is thus constructed as constantly 'at risk' of contracting some 'medical condition'. Thus Illich (1976, p.86) argues that life is turned into: "a series of periods of risk, each calling for special tutelage of a

"a series of periods of risk, each calling for special tutelage of a special kind." If one is constructed as constantly at medical 'risk', this comes into even sharper focus when either pregnancy has been 'diagnosed' or there is an onset of critical illness (the latter is at the extreme of the medical 'risk' continuum).

In both Intensive Care and Obstetrics there is an attempt to assess 'risk'. In Intensive Care this takes the form of an assessment of the risk of death. This is a judgement which needs to be finely balanced in the ITU context, since in some sense the patient must be in a potentially life-threatening situation to warrant ITU care but, on the other hand, they must be deemed recoverable and capable of worthwhile survival. In practice, such an assessment is riven with uncertainty as it bears on the individual case. Various procedures and techniques have been employed, with varying degrees of formality to address the question of 'risk'. Apache II (developed by the ICU Research Centre at the George Washington University Medical Centre, U.S.A., to establish physiological derangement from the norm) exemplifies the formal end of the assessment continuum, whilst, for example, the patient's presumed feelings about what constitutes 'acceptable' survival is at the informally constructed end of the range. Such assessments take place against some considerable uncertainty (see Chapter 8), in essence: "I'm not sure we know which patients to treat. I'm not sure we know when to quit." (Consultant Intensivist, General Unit). To the patient's relatives, however, the uncertainty surrounding the patient's condition might become less apparent whilst the situation appears (however temporarily) technologically controlled. This, occurs in tension with

the more general association of Intensive Care with high drama and incipient crisis.

In Obstetrics too, Antenatal Clinics have increasingly ascribed women a 'risk status', based on factors such as age, number of children, obstetric and medical history. Risk assessments are concerned with morbidity but the underlying premis is again the risk of death: maternal or fetal (see, Oakley, 1984). A Consultant Obstetrician commented:

". . . if the woman's life was at risk. I mean it's at risk with any Obstetric case but. . ."

In this way, Obstetrics, like Intensive Care, is primarily concerned with preventing death rather than facilitating and positively promoting birth. It is not surprising, therefore, that there is such widespread commonality of technology between the two areas. Quilligan (1972, pp.61-69), an American Obstetrician, writes:

"It is our contention. . . that unless the Intensive Care orientation pervades hospital obstetric practice from clinic to delivery room, many patients who need such care will fail to be identified. . . Intensive Care, of course, is more than an orientation. It requires the concentration of equipment and test results. . . that permits fetal-maternal status to be evaluated in much greater detail than is possible by traditional indices. . ."

Health care professionals view the allocation of a woman to a 'risk' category as representing an objective quantification of 'risk' applied to the individual mother. Over the years, high-risk status has been extended to include increasing numbers of women. Conrad and Schneider (1980) have pointed out the extent to which medicalization involves the regularization and management of populations and bodies in the interests of a discourse which identifies and controls that which is 'normal'. Despite the use of such risk scores (based on epidemiological findings

that the risk of death is greater when certain characteristics are present), the vast majority of babies will be delivered safely even when the risk is high, whereas a few low-risk babies will die. High-risk or low-risk allocation is not, therefore, an accurate indication of individual outcome. In the process childbirth has been constructed as imbued with 'pathological potential' (Haire, 1978); 'normal' only in retrospect. This introduces the notion of open-ended risk; infinite uncertainty. Medical technology is put forward as the ideal tool in the management of this uncertainty so that, Oakley (1981a, p.15) maintains:

" . . . trust in nature has been replaced by trust in technology, as tests and machines and instruments become the necessary paraphernalia of birth. . . People are not responsible for their own health, their own illness, their own births and deaths: doctors are saviours, miracle-workers, mechanics and culture-heroes."

It has long been recognised that birth and death are cultural as well as biological events, but in modern industrial society, they are also technological events. In Obstetrics the 'patients' are usually in good health. They are conscious, supposedly consenting individuals, anticipating 'a happy event'. In ITU the patients are critically ill, in some cases dying but, in any event, the subject of potentially life-threatening conditions. They are usually unconscious or semi-conscious. They and their close-relatives are caught-up in a life-crisis that may become a terminal event. What is the history of technological colonisation in the two areas? What purposes does technology serve and how has it been used?

ii) The Struggle over the Control of Childbirth

The historical struggle over who controls childbirth has now been well-documented (for example, Donnison, 1977; Oakley, 1976; Rothman, 1982). Prior to the involvement of the medical profession, birthing women were attended by lay-women in the community who acted as unofficial healers and attendants during childbirth (Oakley, 1976, Chamberlain, 1981). Childbirth occurred at home. There was no systematic ante-natal care and no hospital confinement. Donnison (1977) provides a very detailed and comprehensive account of female midwifery practice and its colonisation by medical men from the seventeenth century; such that, surgical techniques and the management of abnormal labour became the exclusive province of the male barber-surgeon. This is further developed in the work of Oakley (1976), Garmarnikov (1978) and Witz (1985, 1992) who locate this emergent division of labour in patriarchal social relations.

Within the social division of labour around childbirth, women have again become cast in the subordinate role both as inexpert birth-givers and doctor-directed midwives. Even in their unique capacity to bring forth life, women are subject to male domination. Male domination of the birth process is linked by many commentators with an attempt to control and shape women's procreative power which men perceive as a threat (see, for example, Ehrenreich and English, 1973; Easlea 1981). This development is linked with the medicalization of both the birth process and motherhood (see, Oakley 1981a, 1984). Nobel (1983, p.xix) has written of this process:

"There is nothing new about the way women give birth, only the way that those around them control the birth experience".

This raises the question of how the birth experience has been 'controlled' over the years and, what and how technology has been used in this project. I, therefore, propose to give a short review of the technological developments in midwifery (from the seventeenth century)*, with some consideration of who controlled the technology and who benefited or suffered from its use.

From the seventeenth century men-midwives (who were associated with male barber surgeons) gained control over active intervention in labour by the use of instruments. During that century, the Chamberlen family of doctors invented the obstetric forceps, whose design and use were initially surrounded by great secrecy (see, Rushden, 1991). Brought into the delivery room in a box and removed and used under a sheet, they thus simultaneously protecting the woman's modesty and the Chamberlen's monopoly (although the woman often suffered disastrous injury or death in the process). From the beginning midwives were precluded from using instruments** and the medical profession have continued to exercise a monopoly over forceps deliveries.

In the eighteenth century male practice in midwifery increased unabated (Donnison, 1977) and by the nineteenth century doctors were striving to

*This account draws on the historical information concerning medical technology in Tew, 1990.

**Oakley, 1976, suggests this may be associated with a fear that they might use these to perform abortions, given their possible empathy concerning an unwanted pregnancy and in the light of their cultural image which involved notions of immorality and even witchcraft.

establish 'obstetrics' as a specialism within the medical profession (Witz, 1992). The eighteenth and nineteenth centuries had seen the advent of Lying-in Hospitals for poor and homeless parturient women. They were hot-beds of disease and cross-infection. They served as centres of obstetric teaching and research where students could perfect their techniques on the poor (Versluysen, 1981).

By the nineteenth century the division of labour between midwives and medical men had been constructed as a division between assistance and intervention in the process of labour and was mirrored by the construction of labour as either 'normal': unfolding 'naturally'; or 'abnormal': requiring intervention, frequently by means of instruments (Witz, 1992). A major development (in the nineteenth century) had been the invention by Pinard (a French obstetrician) of a stethoscope for listening to the fetal heart (this is still in use today). Pain relief technology - that is, chloroform - also began to be used in childbirth from the mid-century, under the control and administration of the medical profession (at this time midwives were not allowed to prescribe any medicines). Around the turn of the century, Ballantyne ! implimented chemical testing of maternal urine and blood to investigate the condition of the fetus in utero (such developments are linked to the patient being viewed as an 'object', see for example, Jewson, 1976; Reiser, 1978).

The Midwives Act (1902), codified the sexual division of labour around birth and formalized the midwife as an Independent Practitioner of 'normal' labour (Witz, 1985, 1992). From early in the twentieth

century, Caesarian Section which had been very uncommon, now began to increase. At the same time a technique known as 'Twilight sleep' was developed in Germany. This involved administering morphine at the beginning of labour and scopolamine (an amnesiac) after the baby had entered the birth canal; in the hope of erasing the mother's memory of the birth.* This put the delivery entirely under the control of the medical profession, while the mother was passified by drug technology. For thirty years 'Twilight Sleep' was used extensively in the United States (see Arms, 1975), although rather less in Britain. Kielland's forceps were invented in 1913. They were designed to rectify malpositions of the fetal head by means of rotation. From 1915 Dr. Joseph DeLee in America used these as a routine procedure in childbirth (the 'prophylactic forceps operation'). This illustrates that technology designed for a specific purpose may become used as an obstetric routine. 'Prophylactic forceps' were used in conjunction with 'Twilight Sleep' to render the delivery totally under the control of the obstetrician. This approach is bound-up with the notion of 'birth as pathology' (see Haire, 1978). Pregnancy becomes a stress on the female system, which must be managed; birth a medical crisis which must be medically controlled. DeLee's 'prophylactic' views remained influential for many years, particularly in the United States.

* It should be noted that many initiatives concerning pain relief in labour have received the active support of women, including the exertion of group pressure, for medicine to control or extinguish the pain of childbirth (see, Jenny Kitzinger, 1990).

As the twentieth century continued, technological development accelerated and intervention increased. Local anaesthesia for repairing perineal tears and episiotomies were used from the late 1920's, as was radiography which was used antenatally to determine the position of the fetus and the placental site, detect skeletal malformations, pelvic disproportion and multiple pregnancy. Radiography led to an overdiagnosis (false-positives) of disproportion, since there was often an under-estimation of the potential effects of labour to stretch the pelvic opening and mould the fetal head (Strachan, 1954). Not until 1956 (Stewart, et al, 1956) was an association demonstrated between antenatal X-rays and childhood cancer; in the intervening years such a possibility had been denied. This exemplifies the lack of testing which often surrounds a major technique, followed by the later discovery of its mal-effects. From the 1930's, midwives were able to administer gas and air and at the same time artificial rupture of the membranes began to be used in British hospitals to induce labour prematurely. This was followed in the 1940's by the use of an Oxytocin drip for augmenting or accelerating labour and, in American Hospitals, spinal anaesthesia came into use (requiring the attendance of a skilled Anaesthetist). In 1946 51% of mothers received neither anaesthetics, analgesics nor sedatives (Royal College of Obstetricians and Gynaecologists, 1946). However, by 1970 this had fallen to 3% (Chamberlain, et al, 1975) and has remained at this figure (Inch, 1982). More generally, from the 1940's onwards with advances in surgical, nursing, anaesthetic, aseptic and transfusion techniques, the safety of Caesarian Section greatly increased. By 1959 the Caesarian Section rate nationally in Britain stood at 2.7% (Butler and Bonham, 1963) and by

1985 in had reached 10.5% (HMSO 1988); countries such as the United States, Canada and Australia displaying rates of 20% (the Caesarian section rate at the Obstetric Hospital is 20%).

Since the 1950's there has been a great proliferation of screening and diagnostic techniques, including ultrasound, amniocentesis and various biochemical and biophysical tests. Ultrasound greatly increases the possibility of intra-uterine diagnoses of fetal abnormalities and fetal growth problems and has now become a largely routine antenatal procedure. However, it has never undergone vigorous testing for long-term effects. The electronic fetal monitor was also developed in the 1950's by Caldeyro-Barcia and Edward Hon. Hon set-up a commercial company to develop and market his 'product' as well as publishing papers on his equipment. Hewlett Packard and Texas Instruments entered the fetal monitoring business in 1975. Electronic fetal monitors are based on the proposition that the fetal heart rate reflects the adequacy of its oxygen supply, measures on a continuous basis, the fluctuation of the heart rate under the influence of fetal movements and uterine contractions. It allowed for the first time the continual surveillance of the fetal heart during labour. Print outs from electronic monitors are legal documents admissable in a court of law. Monitors became very widely used in the 1970's and 1980's and remain so to the present day. They restrict the movement of the mother and, when applied internally, a scalp electrode is attached to the baby's head via a lead through the vagina (artificial rupture of the membranes will be necessary in order to fit the electrode if rupture has not occurred spontaneously). There have been charges of over-diagnosis and it is not always easy to

distinguish fetal distress (abnormal), from fetal stress (normal) when using such techniques (particularly in second stage). The increase in monitoring and surveillance from the early 1950's has been termed by Arney (1982) 'a new mode of social control over childbirth', whereby the division between the normal and abnormal pregnancy is abandoned and: 'every birth became subject to its (obstetrics) gaze' (Arney, 1982, p.100). This greater 'visibility' of the fetus led to it being seen as 'the second patient' (Arney, 1982). Thus, its interests could be constructed as distinct and sometimes in opposition with those of the mother, such that Quilligan (1972) was moved to ask: 'who is the primary patient?'.

The 1950's also saw a increase in other medical and technological interventions around birth. Midwives were allowed to administer Pethidine from 1950 (Obstetricians had done so since 1939) and the use of episiotomy also increased at this time. Devised for instrumental deliveries and some unassisted births where perineal tears seemed probable, midwives were able to perform it routinely after 1967 (again we have the example of a technique devised to meet a specific need being generalized into a 'prophylactic' obstetric routine. Episiotomy peaked in Britain at 52% in 1980 (HMSO 1986). By 1985 it had fallen back to a national figure of 37% (HMSO 1988). Routine obstetric procedures, such as, episiotomy, induction, enemas and so on, had by this time become the subject of some considerable criticism from interested pressure groups and the quality media.

From the late 1950's Syntocinon had come into use. Synthesized from natural oxytocin, it had been used both for induction and the acceleration of spontaneous labours where the obstetrician felt that progress was insufficient. This process was refined in the 1960's when the Cardiff pump was developed, allowing the accurate titration of Syntocinon to achieve the desired strength and frequency of contractions (as determined by the Obstetrician). This allowed obstetricians more control over the strength of contractions and the duration of labour. At the same time, monitoring techniques became much more widely applied, partly to monitor the increasing use of Syntocinon (this shows how the use of one technology, often begets the use of another). The rate of induction continued to increase, eventually peaking in 1974. It had risen from 13% in 1958 to a national average of 39.4% in 1974 (H.M.S.O., 1981). That year saw a widescale public debate concerning 'the new obstetrics' and artificial induction of labour in particular. Articles appeared in 'The Sunday Times' (Louise and Oliver Gillie, 1974) questioning the 'childbirth revolution' and were followed by an investigatory television programme on the artificial induction of labour ('Horizon', 1975). One of the charges against artificial induction was that it was being used for organisational convenience to ensure that babies were born between certain hours of the day. This position was defended to me, as current practice, in one hospital I visited during the course of this research - the justification was put forward that they 'liked' babies to be born between certain (daytime) hours because if there was an emergency there would be more staff around to deal with it.

A Public Opinion Survey of the Maternity Services in 1974 had found that they were the subject of more criticism than any other branch of the National Health Service. Findings centred on the perceived shortcomings of human relations and effective communications. However, many commentators continued to call for controlled studies to evaluate the different obstetric practices involved in the active management of birth (see, Richards 1975, Chalmers 1978). This call was reinforced by a survey of 2,000 women for the National Childbirth Trust, which investigated mothers' experiences of induced labour (Kitzinger, 1975, 1978). It found that those induced were more likely to suffer further medical interventions than other women. Given continued criticism of this nature, inductions stabilized from 1974, decreasing after 1978.

As Syntocinon use declined for induction, it increased for the acceleration of spontaneous labours. This was linked to the introduction in the 1970's of the Partogram. This graph records the progress in labour, measured against an 'ideal' cervical dilation curve posited by Friedman; roughly, dilation of the cervix by 1 cm. per hour (10 cms. = full-dilation) once the first phase of 3 cms. has been achieved. Failure to achieve this standard may result in acceleration of the labour by artificial means (usually either artificial rupture of the membranes and/or Syntocinon drip). Again, there is an attempt to control and standardize labour within the parameters decided upon by the obstetrician applying a medical perspective.

During the 1960's just under half of British births occurred at home but this changed from 1970, when the Peel Committee, with no statistical

backing, recommended 100% hospital delivery. Hospitalization and medical management of labour, it was argued, would reduce the maternal and perinatal death rate. However, there is no scientifically proven association between the decline in the maternal and perinatal death rate and the increased hospitalization and active management of childbirth (Tew 1977, 1990). Notwithstanding this, place of birth is of great social significance and bears directly on the question: 'who controls birth?'. Barbara Katz Rothman (1982) pointed out that obstetricians could not bring childbirth fully within their domination until they had transferred it to their own domain - the hospital. Here they had both institutionalised power and an armoury of medical equipment and interventions at their disposal. At the time of completing this thesis the House of Commons Health Committee on Maternity Services Report (February, 1992) has recommended a move towards more home births (in the interests of 'choice') and a wider role for midwives. They have finally recognised Tew's 1977 findings by acknowledging:

"There is no convincing and compelling evidence that hospitals can better guarantee the safety of the majority of mothers and babies."

In the 1970's, however, the increasing hospitalization of childbirth saw the more general use in Britain of epidural anaesthesia. Whereas the woman remains conscious, she is paralysed from the waist down and so is no longer physically in control of her body. Epidurals are associated with the need for further interventions to monitor and rectify their side-effects. The forceps rate rose with increasing hospitalization, epidural anaesthesia and induction, peaking in 1977 at 13% (HMSO 1981, 1984), reducing to 9.1% in 1985 (HMSO 1988).

Recent developments in Neonatology have also enhanced the possibility of interventionist obstetrics, since Neonatal Intensive Care Units are able to sustain evermore immature babies. This has enabled Obstetricians to end pregnancy artificially (usually by means of Caesarian Section) at an earlier point. In practice, interventionist obstetrics, anaesthesia and neonatology are dependent upon the technology and pharmaceutical products produced by commercial companies. Since these companies are driven by the profit motive, it is in their interest to promote the widest possible use of their products and aggressive marketing techniques are employed. Legal safeguards surround the marketing of drugs but sometimes harmful side-effects may only emerge in the long-term. In all areas of medicine, there is a long history of failure to evaluate new treatments and technologies accurately before their widespread application (see the Council for Science and Society Report, 1982). Indeed, the minimum requirements of a system for assessing medical technology have not yet been implemented in any country in the world (Banta and Britten, 1982). This is associated with 'clinical iatrogenesis' (Illich, 1976): disease produced by diagnostic or therapeutic procedures and often intervention during labour is an attempt to redress the harmful consequences of earlier interventions (MacLennan, 1978, has called this 'a cascade of intervention').

It is clear that obstetric technology has played a central part in the medicalization and colonization of childbirth by (predominantly male) obstetricians (see, Arney, 1982). It has also been central to the (cognitively male) medical scientific attempt to control and regulate birth. Such technology has, to some extent, contributed to beneficial

outcomes in individual cases but its general contribution appears to have been vastly overstated. Thus, the grounds for using much obstetric technology on a 'prophylactic' basis remains scientifically indefensible. A considerable disjuncture exists between incontrovertable evidence of its efficacy and its routine use in Obstetric practice. At the ideological level the case has been fiercely promoted that medical technology and techniques have been largely responsible for a decline in the maternal and perinatal death rate. However, social class remains the greatest correlate in this decline (Townsend and Davidson, 1982). Obstetric ideology also maintains that pregnancy and labour is 'normal' only in retrospect; in the present, it remains loaded with 'pathological potential'. The 'uncertainty' this engenders is promoted as best managed by the use of technology.

iii) The Establishment and Development of ITU Provision

"This life-span is brought into existence with the pre-natal check-up, when the doctor decides if and how the fetus shall be born, and it will end with a mark on a chart ordering resuscitation suspended. Between delivery and termination . . . At each stage of their lives people are age-specifically disabled. The old are the most obvious example: they are victims of treatments meted out for an incurable condition . . . Intensive Care is but the culmination of a public worship organized around a medical priesthood struggling against death." (Illich, 1976, pp.87-114)

Illich (1976, p.104) terms this heroic medical "struggle against death" a "phantom production of life expectancy as a commodity". Intensive Care is the ultimate technological expression of the heroic medical struggle against death; that is why it is so often used in film or the media as a dramatic symbol of such mortal combat. In an age where doctor's surgeries advertise 'Yearly M.O.T.'s' for their patients, the

Intensive Care Unit may be seen as the archetypal medical 'engineering workshop'. The body can be mended, since 'we have the technology':

". . . (if the patient dies) we have failed the patient in that they and their relatives have put themselves in our hands, trusting that 'we have the technology, we can rebuild you', and we haven't done it."
(Staff Nurse, Specialised Unit)

Thus, Illich (1976, p. 104 maintains)

". . . people are strengthened in their belief that they are machines whose durability depends on visits to the maintenance shop. . . "

The development of the Intensive Care Unit was promoted by a number of factors: the rapid development of major surgery, the refining and extension of anaesthetic techniques, the development and use of ventilators, and the importance attached by the medical profession to the close monitoring of patients following myocardial infarction (heart attack). These areas also represented the development of new markets and products for medical equipment companies.

The beginning of Intensive Care in Britain, in the early 1960's, was marked by the development of the so-called 'iron lung' respirators for patients whose capacity to breathe unaided was temporarily interrupted (or needed to be rested). Such patients were intensively nursed together on a side-ward - these were called "Respiratory Units". The first ITU in Britain was established in Liverpool in 1959/60. The first training course for ITU nurses was started there shortly afterwards. I.T.U. was the first example of nurse specialization, which has since blossomed. The early 'iron lung' was used for patients who were suffering from, for example, polio myelitis, chronic bronchitis with chest infection, or crushed-chest injuries. Doctors Sherwood and

Robinson, who had acquired expertise in acute respiratory failure, were the first British exponents (in 1962) to use prolonged mechanical ventilation and muscle relaxants in the treatment of a crushed chest (Ambiavagar and McConn, 1978). Pioneers in the field were involved in the design of respirators alongside commercial companies. In 1965 Lassen, one of the early exponents of ITU was the first physician to call an anaesthetist in consultation in the treatment of polio myelitis (Ambiavagar and McConn, 1978). The first ITU in America was based at the North Carolina Memorial Hospital, where in 1953 all critically ill patients were relocated in one room equipped with emergency equipment and specialised drugs (Christie and Bone, 1981). Intensive Care provision emerged rapidly during the 1960's, based on the new respirator technology and the development during that decade of electronic monitoring equipment which could be used for the continuous surveillance of patients who had suffered, or were threatened by, myocardial infarction. Many techniques remained unverified by clinical trials and certainly random controlled trials were few (Waitzkin, 1990). For example, continuous electronic monitoring in cases of myocardial infarction was never proven a more effective treatment in terms of mortality outcome than care at home and serious research in Cardiac Care Units was not undertaken until the 1970's, although this provision was extended to hospitals throughout the system (Waitzkin, 1990).

Intensive Care provided a concentration of nursing expertise in close liaison with surgeons and anaesthetists: intensive care of the critically ill combined with clinical investigation. This placed particular emphasis on the nurse, providing the same vigilant attention

for the unconscious ventilated patient as the anaesthetist in the operating theatre. Both nurses and midwives are subordinate to the medical profession. The time commitment involved in attending labour meant that male Obstetricians colonising the area were unwilling to take it over completely, since in terms of opportunity-cost this would have been unremunerative (Witz, 1985, 1992). Similarly, in Intensive Care, the continuous presence of an Anaesthetist (male sex-typed profession) is not considered cost-effective and the ITU nurse (female sex-typed profession), therefore, acts as a technological caretaker. ITU nurses, therefore, receive supplementary training in the use of monitors and respiratory equipment, and further instruction in physiology, illness trajectories and care of the critically ill. They carry-out protracted 'extended role' functions, 'sub-contracted' to them by the adjacent medical profession. These remain under the 'ownership' and control of the dominant group (see Chapter 7). At the same time, patients are nursed within parameters laid-down by the doctors and medical advice must be sought if the patient transgresses these limits. Although most informants, including Intensivist Consultants, described Intensive Care as primarily a 'nursing procedure', saying Units were 'only as good as their nurses', control over the ITU lies firmly with the dominant (predominantly male) medical profession and it is the scientific medical model that remains in ideological ascendancy on the Units.

Doctors with an on-going major commitment to ITU may be called Intensivists. In the United States and Europe, Intensivists are recognised as a Speciality in their own right and it is common for Intensivists to concentrate exclusively on Intensive Care. In the

United Kingdom Intensive Care is still in the process of being recognised as a Speciality. The vast majority of Intensivists in the United Kingdom are Anaesthetists. This is related to the preserve of Anaesthetics being the paralysis of the patient and the support of the patient's vital functions while paralysed - this is the role of the Anaesthetist in the Operating Theatre - so that when these techniques became used in the more general treatment of the patient, Anaesthetists were involved and took over the area that developed. Since they are a 'service Speciality', Anaesthetists have always been seen as subservient to Surgeons, some of whom (according to Anaesthetists) regard Anaesthetists as 'technicians'. This, despite the fact that, "we play with more dangerous toys" (Senior Registrar, Anaesthetist). Consultant Anaesthetists do not have patients for whom they have overall clinical responsibility. Until the emergence of the Intensive Care Unit, they did not have hospital beds directly under their jurisdiction or a particular clinical location within the hospital that they could claim as their own territory. This is important, since as one Consultant Anaesthetist put it, "power in medicine is geographical". Intensive Care, therefore, represents the colonization of a particular geographical location and care-niche (care of the acutely, critically ill) by the anaesthetic profession; achieved by the development and use of high technology medical equipment.

Intensive care provision varies according to the Specialities of the particular hospital and there is a great deal of heterogeneity. Broadly, there are General I.T.U's taking a range of patient conditions, including 'road traffic accidents' and there are Specialist

I.T.U's treating patients with specific conditions (e.g. cardiac by-pass surgery, neurosurgery, organ transplantation) or age ranges (paediatrics or neo-nates).

The recent Kings Fund Report on 'Intensive Care in the United Kingdom' (1989) defines intensive care as: 'a service for patients with potentially recoverable diseases who can benefit from more detailed observation and treatment than is generally available in the standard wards and departments'. It provides a centre for physiological measurements, nursing procedures and therapeutic manoeuvres in the care of the critically ill. Much intensive care involves the temporary artificial support of the function of one or more major organs, for example, the use of a mechanical ventilator in the case of respiratory failure or dialysis for renal failure; up to three systems may be simultaneously supported. Such technological support may follow major trauma, major surgery or critical illness. Supporting individual functions is designed to allow time for the healing process to get underway or further treatment be undertaken. Intensive care units also maintain 'organ viability' in the case of patients who fulfil the criteria of 'brain death' and are potential organ donors (mechanical ventilation is required in order to keep the organs in good condition). This connection with transplantation also reinforces the notion of the body as a machine, which may receive 'spare parts' from comparable ('cross-matched') models.

Patients in Intensive Care tend to be semi-conscious or unconscious, either as a result of sedation, their particular illness or a

combination of the two. In recent years there has been a move away from paralysing artificially ventilated patients, although this still takes place in some Units and for some patient conditions (patients are still routinely sedated to varying degrees). This trend has been fuelled by: fear that the paralysed patient may become accidentally disconnected from the ventilator; the fact that in some cases patients were found to be paralysed but conscious; worries about unnecessarily debilitating the tone of the respiratory muscles and the build-up of toxicity associated with heavy and sustained drug use. Some patients in ITU may become extremely disorientated, sometimes hallucinating; this is known as 'ITU Syndrome' and is well-recognised within the literature (see, Adams, 1978).

Intensive care also involves extensive patient monitoring in order to survey the effects of treatment and attempt to detect the early onset of deterioration. Much monitoring is carried out electronically. Typical vital functions that are electronically monitored include: heart rate, pulse rate, blood pressure and central venous pressure. Many techniques are highly invasive. Some manoeuvres involve a considerable risk to the patient (one in fifty patients undergoing heart catheterization die resulting from the procedure [Waitzin, 1990]), and substantial cost-implication for the hospital.

Currently, the Department of Health (Building Note 1970, revised 1974) recommends the I.T.U. should correspond in size to 1 - 2% of total acute beds in every hospital and that a District General Hospital (D.G.H.) should have a 6 to 8 bedded Unit. According to a recent survey

conducted by the Association of Anaesthetists (1988), most Units are smaller than envisaged by the Department of Health. At the present time many Units have at least a proportion of their existing beds closed because they cannot afford to staff them - the nursing staff to bed ratio is 6½ to 1 and, as one Consultant Anaesthetist put it:

"Two Intensive Care beds are the same in nursing terms as an entire Nightingale Ward."

This makes ITU high-cost as well as high-technology care and yet there is little evidence about its proven efficiency for the majority of patients treated (Kings Fund, 1989). This provokes the question: could the money be more effectively spent in other, more 'low-tech' areas?

There are no private Intensive Care Units in the U.K. This may be compared with the United States where Intensive Care is 'an Item of Service' and each procedure carried out on the Unit is billed to the patient. In this context Intensive Care affords the possibility of greater income from the patient, since more intensive treatment is involved. This system has led to charges of 'over-treating' in the U.S. context and, for example, Waitzkin (1990) has contrasted the over-production of Intensive Care technology with the fact that many people still have little access to the most simple medical services.

The medical technology market is now a considerable source of income in terms of capital accumulation. There are many companies involved in the Intensive Care market. Hewlett Packard, one of the largest, aggressively promoted cardiac monitors with the consistent claim that they were decisively effective in reducing mortality from myocardial

infarction (heart attack) and rhythm disturbances; despite the fact that such claims remained unproven (Waitzkin, 1990). At the same time, such companies diversified into third world markets and the competitive drive was to devise new products and render existing ones obsolete. This included the development of telemetry for ambulatory patients and computerized data-analysis systems. Medical technology has been termed a 'social capital expenditure', whereby the State tries to counteract the recurrent crises of advanced capitalism (O'Connor, 1973). Such expenditure serves a dual function, representing a display of public concern (public health and welfare expenditure is highest at times of unrest) and simultaneously supporting the business interests of capital invested in that area (Waitzkin, 1990). It is clear, however, that many patients do owe their continued survival to Intensive Care and that patients are now surviving who would not have done so even 5 or 6 years ago. Nevertheless, achievements must be set against costs, both in terms of whether the money could better be spent on other provisions and the validity of such radical interventions on patient autonomy unless such treatments are of proven effectiveness.

Conclusion

Obstetric technology represents a central mechanism whereby male Obstetricians were able to medicalize and colonize childbirth, bringing under their own control both the labour process of pregnancy and childbirth and, more generally, containing the perceived 'threat' of women's procreative powers (see, for example, Easlea, 1981; Arney, 1982). Intensive Care from its inception, grew out of the

concentration and use of advanced medical technology, organised in a mortal struggle against death (which may be technologically regulated even if defeat is not possible - see Chapter 7). It has represented the colonisation of a care niche (care of the acutely critically ill) and a geographical area of the hospital by Anaesthetists. This has involved a delegation of the routine care of the ventilated patient to the ITU nurse (a female sex-typed profession) from the Anaesthetic staff (sex-typed male). Just as the time-commitment involved in the conduct of labour was considered unremunerative (or not cost-effective) for the Obstetrician (Witz, 1985, 1992), the continuous presence of an Anaesthetist is viewed similarly. Both areas are the subject of some considerable ideological overlay, revolving around both the question of risk and uncertainty (open-ended risk), and the claims made on behalf of technology by professionals or attributed to such techniques by lay-people.

In Obstetrics, 'uncertainty', as an adjunct to 'pathological potential', has provided an entree for the Obstetrician to dominate the entire area: technology has been central to this domination with its key role in the management and manipulation of uncertainty (see Chapter 8). In ITU, technology is also central to the manipulation and management of uncertainty. The development of a technological product market around childbirth and critical illness/death has also provided an expanding market for capital accumulation. Many techniques and technologies, however, remain questionable in terms of proven effectiveness. In Obstetrics, given that one is concerned with largely healthy women and an event which is potentially fulfilling and empowering, the necessity

for the routine use of technology, however valuable it may be in specific cases, must be of particular concern. At the same time, in Intensive Care, given the costs - social, emotional and economic - the ethics and efficacy of practices and technologies must be further scrutinised. The claims, ethics and proven effectiveness of some of the central practices and technologies of Intensive Care and Obstetrics will now be examined in more detail.

CHAPTER 6

THE ETHICS AND EFFICACY OF MEDICAL TECHNOLOGY

Medical science constructs the patient (a person/subject) as an object (of scientific investigation). This has ethical implications, since individuals have a sense of self and others (Mead, 1934), which means they are able, perhaps entitled, to make moral choices about their own conduct and that of others towards them.

The use of medical technology raises two questions which do not apply to technology use generally. Firstly, patients are not merely working with technology (within the division of labour, following Hughes 1971, Strauss, et al, 1982, and others, I view the patient as being part of the division of labour), they are also objects of technological intervention. Viewed through the mechanistic materialist gaze, the 'patient' may be seen solely or primarily as a 'work object', a 'scientific problem', and so lose their personhood. Secondly, uncertainty permeates the health labour process (see, Parsons 1951, Fox 1957, 1979, Davis 1960, Scheff 1963, Robinson 1973). The latter is untrue of many work situations which are not only repetitive but predictable. More generally, medical technology, since it intervenes in care and prolongs or saves lives, raises ethical questions of an especially acute kind.

Intensive Care technology, such as mechanical ventilators, increasingly requires doctors to decide how long to maintain intervention when the chances of patient survival are minimal. The patient may be 'brain dead', which often raises the question of organ donation, or they may

be in a 'vegetative state'. The latter denotes severe, often global, brain damage - the patient is totally unable to communicate or interact with their environment. Unlike 'brain death', this state is not incompatible with continuing life (however circumscribed this may be). Therefore, does Intensive Care sometimes prolong deaths rather than save lives? Does it extend ailing rather than healthy lives? What are and what should be the criteria for admission to Intensive Care, since it represents a very costly and aggressive form of medical intervention? Active euthanasia is illegal. What are the criteria and limits of passive euthanasia, that is, no active intervention or the withdrawal of active support? Does it make a difference whether it is active or passive when the outcome is the same: the person is dead? When you 'turn off' a 'life-support system', are you: killing someone, letting them die or finding out they are already dead?

In pregnancy too, issues have been raised about the ethics of various reproductive technologies (Stansworth, 1987). Is the routine use of extensive monitoring and surveillance equipment justified for mothers in 'normal' labour? Does medical technology facilitate the birth process? Does it routinely save lives? Such technologies may be seen as disempowering to the mother, has their use, therefore been validated? Are the high levels of instrumental deliveries based on sound practice? Oakley (1980), for example, has suggested that a high-technology birth may be associated with post-natal depression.

More generally the question arises of competing resources between different medical areas. High-technology 'solutions' may be especially

costly in economic terms and may deprive other areas as a result, so do the results justify this? Furthermore, how will scarce technological resources be allocated, for example, ITU beds? Lay-people generally first have direct contact with medical technology as patients or as relatives or friends of patients. The extent to which individuals wish all the potential benefits or risks of a particular procedure or technology to be outlined to them is a matter of conjecture and makes debatable where to draw the line in terms of 'informed consent'. Some may prefer professionals largely to assume the 'burden' of decision, others might wish to be fully consulted. Many technologies are highly complex and may be difficult for lay-people to understand in detail (Alderson, undated). However, people have free-will (however constricted), possessing consciousness and conscience. This raises the question of choice. How much choice will the individual be afforded in the medical encounter? The opportunity for the patient to engage in moral conduct may be essential in maintaining a humanized approach to medicine (Ledermann, 1986). Technologies also impact on wider social values, for example, does the increase in antenatal test techniques for congenital abnormality (allowing the possibility of abortion) influence the value society places on the disabled?

Despite the high cost of implementing medical technology, scientific evidence of its benefits to patient-outcome is often lacking. The ethical use of medical technology is intimately related to the question of 'efficacy'. If a 'cure' carries possibilities of iatrogenic effects - disease and illness resulting from diagnostic and treatment techniques (Illich, 1976), then the ends must justify the means (as well as the

'ends' themselves being morally justifiable). That is to say, we must assess outcomes associated with a given technology. Navarro (1976) criticises Illich (1976) for judging outcomes in terms of 'cure' (rather than 'care'). Many of the claims relating to medical technology have, however, stressed its contribution to effecting a positive outcome. This, therefore, becomes highly relevant. Infectious disease has been the area most successfully treated by technology, such as, vaccines and antibiotics. More generally, the uptake of technological developments may not coincide with their therapeutic effectiveness.

Finally, decisions concerning medical technology use are represented as proceeding from medical imperatives. Is this an accurate representation of practice? If not, what are the other factors and rationales, including ethical components, influencing decision-making and organizational outcomes?

1) Intensive Care - Hi-tech/High Costs

Intensive Care, in addition to being a nursing procedure, is a technological resource in the care of the critically ill. A recent report from the Kings Fund Centre (1989) points out that although Intensive Care saves lives in some cases, its benefits have not been scientifically investigated for the majority of patients gaining admission. This is despite the fact that, as Manson (1977) argues, performance indicators, 'throughputs' of patients and other 'efficiency' criteria are more easily applied and measured in high-technology areas. In addition, the effectiveness of certain technologies used in the area

remains unproven in terms of beneficial patient-outcome. For example, continuous monitoring of myocardial infarction (heart attack) patients was speedily adopted and became widespread from the 1960's, although this technique was never proven effective for this purpose by controlled clinical trials (Waitzkin, 1990). Serious research was not undertaken until the 1970's when random controlled trials by Mather, et al (1971, 1976) and Hill et al (1978) found no evidence that such patients did better in hospital than at home. A twelve months' descriptive epidemiological study of myocardial infarctions on Teesside (Colling, et al, 1976, Dellipiani, et al, 1977), investigating treatment and mortality outcomes, found both crude and age-standardized mortality rates were better for patients treated at home. Furthermore, Unit death-rates may be misleading, since the function of ITU is to support patients through critical periods. The patient may die shortly afterwards either on the Ward or at home or they may remain terminally ill. This is comparable to low birth weight infants 'saved' by electronic fetal monitoring (they would not register as perinatal deaths), where research indicates that approximately one third died by the end of the first year of life (Hack, et al, 1980).

Given the high economic costs of Intensive Care (it is the most expensive of the Specialities to fund), together with the ill effects which may arise in terms of loss of patient's dignity, privacy, autonomy and the possibility of iatrogenic effects of treatment, this shortage of evidence may be viewed as a serious problem (Kings Fund, 1989). The Kings Fund calls for an evaluation of who is most likely to benefit from

Intensive Care, the cost of provision, and the criteria that should be set for admission and discharge.

In practice, the decision to admit a patient to an ITU will relate to various criteria which, at the overt level, may include such factors as: an Apache severity of illness score, the patient's pre-morbid state and probable quality of survival (encompassing the patient's reaction to this - very much a social calculation). Discharge criteria are also unlikely to have been formalized and contention may arise. Furthermore, there are no national or Regional guidelines laid-down about the use of technology in Intensive Care (or Obstetrics); this is said to be a matter of 'clinical judgement'. However, if one detaches a dying patient from a ventilator before their heart has stopped beating, one risks prosecution (for murder) but ventilators can be regulated to deliver fewer breaths or a less oxygenated mixture. Additionally, in both ITU and Obstetrics electronic monitor print-outs must be retained but it is not a legal requirement to produce them in the first place.

The Kings Fund (1989) stresses the right of patients to make an informed decision to forgo Intensive Care and underlies the importance of keeping relatives fully informed of the patient's condition and prognosis. The right to forgo ITU appears highly problematic. It is unclear at what point the patient would signal this decision, especially since many are emergency admissions and once critically ill may be unconscious or semi-conscious and unable to make judgements of any kind. It also seems unlikely that many individuals would categorically wish to decide, while

not in a life-threatening state, that they would not, in any circumstances, wish to be admitted to an I.T.U.

ii) The Political Economy of Intensive Care Technology Use

Given the debate concerning rational admission and discharge criteria for Intensive Care, I intend to consider how admission comes about in practice and the rationales that attend discharge (or the 'withdrawal of active support'). The demand for Intensive Care stresses the medical imperative but are there other rationales and dynamics at work?

There was considerable controversy in the media and surrounding the General Election campaign (April, 1992) about the shortage of ITU beds. Units throughout the country have ITU beds closed because they cannot afford the revenue consequences of keeping them open and there is also a national shortage of ITU trained nurses. A National Confidential Enquiry into Peri-operative Deaths (1992) claims that the shortage of I.T.U. beds is one of the two major causes associated with such deaths (the second is the operation being performed by inexperienced staff from another Specialism, with insufficient supervision).

Some distinction needs to be made concerning both admissions and discharges, between the General and the Specialised Unit. Admissions to the General Unit tend to be emergencies: patients suffering post-operative problems, trauma cases, road traffic accidents (R.T.A.) or patients whose condition has deteriorated into critical illness. The General Unit tries to keep an 'emergency bed' free in order to allow

flexibility for new cases. Ideally, the situation is one of optimising resources by attaining the right balance between admitting patients who are sufficiently ill to warrant ITU but not beyond redemption; Intensivists admit, "there is a large grey area". Particularly in the case of a General ITU, the fear is that:

". . . the Unit will become a dumping ground for things that other people no longer want to manage." (Registrar Anaesthetist)

This can block beds, causing frustration amongst staff, distress amongst relatives and is of dubious benefit to patients. In practice a negotiation often occurs (although, in the absence of agreement, an Admitting Team can insist on an admission if a bed is free):

"A Registrar came along and said, 'I've got this patient whose an 84 year old respiratory failure whose got a carsonoma of the colon and we may well want to operate tomorrow, what about an ITU bed?' My response to that was, 'Well, I think that may well be an abuse of ITU as a resource. It sounds to me as 'though the patient's pretty well reaching the end of his natural life'. If he has an operation, afterwards, my view would be, fair enough, but if he can't swing it . . . I think it would be meddlesome to end up with an 84 year old with that sort of disease on a ventilator with a tracheotomy, three weeks later. . . 'I'm not saying 'no absolutely', but I would wish to be persuaded'. So there is a debate that goes on." (Consultant Anaesthetist, General Unit).

One of the (General Unit) patients in the study fell into this category. She was an 83 year old, operated on for cancer of the bowel. She spent three days on ITU where she was apparently resuscitated, ventilated and treated for renal failure. She died three weeks later, having been discharged to a Ward. Her daughter's view contrasts to that expressed above. Despite the eventual outcome, she felt:

"They did a marvellous job. They got her heart beating and her kidneys working properly. . . they were absolutely marvellous. For a lady of 83 when she'd had such a serious operation. Because it must have cost a hell of a lot of money, and to fight like they did for my mum at her age. She had every chance, they were absolutely marvellous. . . in the finish she just gave up herself. She was wanting to go off. She was asking everybody to put her to sleep. She'd just had enough and she 'just wanted to go to Jesus' she said. And then she went very, very

peacefully. But in Intensive Care they were absolutely marvellous. . ."

The view stated to be the patient's appears nearer that put forward by the Consultant (although, in practice he must have sanctioned this woman's presence on the Unit). The Admitting Team, having made a surgical investment in the patient would be likely to seek validation of this decision by using whatever other interventions were at their disposal (Admitting Teams were said usually to be the last group to arrive at the decision to withdraw active support from a patient - they bear ultimate responsibility for treatment or its discontinuation).

I.T.U., as viewed by the patient's daughter appears, as a discrete event where her mother was successfully rescued from imminent death. She values the social worth she feels is implied by concentrating such expensive resources on her aged mother and is comforted that 'everything was tried'. The eventual outcome is seen as a failure of spirit rather than a failure of medical science and technology.

Discharge is a multi-disciplinary decision between the Anaesthetic and Admitting Team and is negotiated around the patient-condition and the bed-state. Generally, a consensus emerges: this appears a delicate political situation where the various medical teams involved must not feel that their clinical freedom or particular area of medical competence within the bodily division of labour is being contravened. In the General Unit problems generally only arose when there were particular pressures on beds and at the time of the study (1989) disagreements still appeared relatively rare.

The situation in the Specialised Unit was more politically charged with a continual pressure on beds. A 'free', 'emergency bed' was not routinely available, given the desire to maximise bed-occupancy and throughput figures, so that:

"The first hour every morning is people saying 'why?', 'I want my patient. . . ' And you say (to one) 'how about you having your patient up here?' and (to another) 'you do a patient on Wednesday'. It's like that every single day. . ." (Consultant Anaesthetist, Specialised Unit)

Here, the ability to admit a patient and the willingness to discharge another were often intimately connected; one Consultant Anaesthetist termed patient-discharge a 'political nightmare'.

Who arrives in the Intensive Care Unit is, therefore, partly a matter of the politics and economics of the particular hospital. Political and economic factors also influence the condition in which the patient arrives. The General Unit was located in a hospital in a socially deprived area of the city. Medical staff felt that patients, who they described as a heavy-smoking, heavy-drinking population displaying a high incidence of chronic illness, tended to present late-on in the disease process. This had led those in charge of the Unit to emphasise the use of highly invasive techniques, since it was felt a radical response was necessitated. On the Specialised Unit, nurses felt that by-pass patients were arriving on the Unit needing more technology (lines for monitors and drips) and more drugs support, since they had suffered greater deterioration pre-operatively than previous cohorts (due to the length of Waiting-lists):

". . . because there aren't beds, the 'heart patients' are either dying on the waiting lists. . . and if they do make it to surgery, they are that much more poorly. . . So as time goes on the patients do get sicker, and sicker and sicker. . . They're on many more drugs after theatre. We have a lot more patients dying on the Unit post-operatively

and we have a lot of patients requiring more support for the heart in terms of equipment, drugs, you know, very specialised support. That cuts down their chances of survival." (Staff Nurse, Specialised Unit)

This implies that delays in treatment will create a situation where the need for greater technology use is demand-led by the deleterious effect this has on the patient's condition. The longer one delays their treatment, the greater the cost, both social and economic when it does eventually take place; unless, of course, they die in the meantime.

Who arrives in Intensive Care will also select the mix of Specialisms in the hospital and, as was particularly clear in the Specialised Unit, their relative political strength. Formally, admission and discharge from the Units was described as 'a joint decision between the Admitting and Anaesthetic Team'. However, the Specialised Unit is located at a Supra-Regional Centre receiving national funding for cardiac and 'pioneer surgery' operations (routinely necessitating ITU post-operative support - these patients represented about two thirds of the ITU bed occupants). Cardiac and 'pioneer surgery' patients were subject to quota targets. Failure to meet these meant less funding and/or the inability to apply for higher quotas, carrying more funding. Continual failure to meet quota targets might mean operations would be moved to another hospital assessed as more 'efficient'. This had created a market framework for operations paid for from Supra Regional funding. Given the ITU bed shortage, this market mechanism only served to exacerbate the competition for beds and had led to such informal practices as rival teams apparently 'smuggling' patients into ITU beds during the night and on occasion, reportedly, the manipulation of patient deaths (given that a medical decision had been made to withdraw

active support) around the bed-state. This involved the patient's death being timed to coincide with the day that particular team needed the bed for another patient (precluding its reallocation to another team):

". . . there's an awful lot of politics here and they'll keep a patient going because they want the bed for Monday and things like that and I don't like that and it does happen". (Senior Sister, Specialised Unit)

Technology was, therefore, being used to wrest control over another scarce resource - ITU beds.

Overall, therefore, bed availability is crucial to who gains access to ITU technology. One relative from the Specialised Unit was the mother of twin sons both of whom had operations to modify their jaw. Both should have been routinely admitted to ITU for 24 hours post-operatively. In the event, the son who was least ill post-operatively was the only one to be admitted to the Unit, since a bed was available (they were operated on at different times). Several relatives interviewed spoke of their distress that operations were initially cancelled and rescheduled. Such pressure on beds represented a constant pressure on Unit staff to discharge patients, sometimes before they felt the optimum intensive treatment time had been achieved, for example:

"There's a lot of pressure on you to put a higher number of patients through what facilities you've got when you know you shouldn't be doing it. It's frustrating when you've spent hours looking after a patient, days looking after a patient, whose been very ill. He's getting a bit better and you think, 'This is it!' This patient shouldn't have survived and he's done so well!' and then suddenly you're told there's an emergency downstairs and he has to come to the Unit and the only patient you can move out is the patient you've had problems with. But he's now a bit better and you know if you send him to the Ward he'll not get that one-to-one care and he's going to stand a good chance of not pulling through. And those are the patients who go to the Ward and die. . . We have moved a patient from the Unit today who should stay there until tomorrow for definite. He'll almost certainly be alright but that is not the best thing to do. . . and you go to the Unit General manager and say 'What am I supposed to do?' and they say 'There's no more money for beds'." (Consultant Anaesthetist, Specialised Unit)

Similarly:

". . . and then at night, about 11 o'clock, they (admitting team doctors) 'phone up and say there's a patient on the Ward and they want him up here and they've got another patient up here and they want him off. And, he's going off, and they'll tell you that, fait accompli, 'he's going off' because this one needs ventilating and you can do nothing about it. . . you try and move a patient who shouldn't be moved in order to try and accommodate that other patient. . ." (Consultant Anaesthetist, Specialised Unit)

Nursing staff on the Specialised Unit also identified this problem:

". . . they hurry patients out so quickly and you know that they're going to come back within a week because they're not really ready to be either off the ventilator or back on the Ward. . . you think 'if he had another day he'd be O.K.', yet they're pushing people in and out. . . there's a lot of pressure amongst the different groups of doctors to let them go". (Staff Nurse)

or:

". . . a couple of weeks ago there was a young girl who was bleeding rather profusely (in the pioneer surgery ward) and they needed to get her up here but we were full to our allocation and they couldn't get a bed for her and the 'pioneer surgery team' were arguing with the Cardiac Team about which patient of each team was well enough to go back to the Ward. It was decided in the end that because it was a 'pioneer surgery' patient who needed to come up to the Unit, a 'pioneer surgery' patient had to go back down to the Ward and that's how they got the girl in. And one of the Anaesthetists came up and chatted to me and said 'I'm so fed-up with this'." (Staff Nurse)

The rational or 'efficient', or indeed 'ethical', use of resources in a situation of heavily competing priorities, therefore, may become enormously problematic. If no ITU bed is available at the hospital where they are a patient, individuals can be transferred to an ITU at another hospital. This carries its own risks (see, Bion, et al, 1988), while such a bed may not be available.

Technology use in Intensive Care, therefore, relates to the mix of patients, political economy factors such as those described and the care philosophy of the Unit. In neither ITU nor Obstetrics had technology

been used as a cost-cutting device to reduce staff numbers and there was a consciously articulated philosophy to keep the Intensive Care nurse/midwife by the bedside (see Child, et al, 1984; Harvey, 1984). Nevertheless, during staff shortages (from observations and interviews) electronic monitors were clearly used to cover for the 'absent' nurse/midwife and provide 'hard copy' data on the patient during such absences. The care philosophy of the Unit is a social construct, deriving in part from the medical beliefs of the Consultants in Charge. In both Units the care philosophy favoured early and aggressive invasive techniques as a means of 'optimising' patient care. It also related to the nature of the population served. The patients at the General Unit, typified by medical staff as socially deprived and chronically ill, were seen as warranting radical intervention. The patients at the Specialised Unit (since it was based at a 'centre of excellence') tended to have undergone very major, often innovative surgery and, were often, therefore, particularly unstable.

The cardiac by-pass patients accounted for about one third of the patients admitted to the Specialised Unit. They were routinely admitted to the Unit for 24 hours post-operative care. Nurses actively managed by-pass patients' care (this involved adjusting the patient's treatment - titrating drugs and fluids and so on - and 'weaning' the patient from artificial ventilation) as 'an extended role' duty. This was carried out under strict protocols and involved nurses being trained in the techniques and tested on their efficiency performance. Nurses also on occasion unofficially 'weaned' non-by-pass patients. Weaning from artificial ventilation is normally carried out by the

anaesthetic staff. It involves adjusting the ventilator setting such that ventilatory support is withdrawn gradually, culminating in extubation (removing the plastic tube delivering air down the patient's air way) and removal of the patient from the ventilator. The delegation of this procedure to nurses appeared related to the time-constraints involved in the turn-round of heart by-pass patients within the labour process. Each cardiac bed routinely remained empty for only 2 hours, between 11 a.m. and 1 p.m., when the next by-pass patient would arrive. At a formal level nurses are allowed to extubate patients but only under the direct supervision of an anaesthetist. On the Specialised Unit this took a negotiated form:

"Sometimes it is (supervised), sometimes it isn't. If it's a routine over-night by-pass, they (nurses) tend to extubate early in the morning ~~when~~ there's, I mean, I've always said this is wrong, but we extubate them in the morning when there's nobody (no doctors) around (laughs), simply because if we don't extubate them for a few hours, they're not alright in time to go back to the Ward in time for the next one to come in (laughs). So we're sort of, not sailing close to the wind, I mean, I consider it not to be ideal and we are living with the constraints of what we've got. Having said that, there's always an anaesthetist instantly available should we run into trouble and we can hand ventilate a patient while we wait a few minutes for an anaesthetist to come and reintubate if necessary. So although, I don't consider it ideal, I don't consider it unsafe." (Senior Sister)

This throughput demand, necessary in order to meet funding targets - combined with the unwillingness of anaesthetists to be physically present on the Unit 24 hours a day - conspired to devolve tasks to the nurses both formally and informally. Delegation was achieved by virtue of the anaesthetist continuing to be present on the Unit (formal requirement) or nearby (informal requirement). This contrasts with the manufacturing shop floor where delegation often enables the delegator to be totally absent. It is related to the danger and uncertainty of outcome involved in the transaction, for example, if the patient's

condition deteriorates during the weaning process - medical assistance is required; and if re-intubation is necessary a doctor needs to perform this (ITU nurses may only carry out this highly dangerous procedure in the most dire circumstances). The political economy of throughput, therefore, influenced which patients had access to ITU technology in the first place, what technology (for example, the amount) was used on the patient, how it was used (for example, for early and aggressive intervention) and the division of labour surrounding its use at both a formal and informal level. It also influenced how long the patient remained on the Unit, given that there were pressures and counter-pressures (from different Admitting doctors) on the anaesthetic staff to discharge one patient in order to admit another. One may conjecture whether high productivity figures represent the 'efficient' use of technological resources if patients are discharged before the optimum care period.

iii) The Ethics of 'Withdrawal' and Death on the ITU

Unit death rates tend to average between 10%-20%. Some deaths follow the withdrawal of technological support where death has been judged unavoidable or continuing life untenable. Active euthanasia remains illegal. Parsons (1951) and Scheff (1963) have pointed to the social norms and decision-rules which dictate active medical intervention. Clearly such criteria operate around withdrawal of active support, although these have not generally been formalized or explicated. The 'Intensive Care Society' (a professional body) supports the notion of a 'gradual' withdrawal of support, mimicing as closely as possible 'natural' death, which (notwithstanding heart-attacks and massive

bleeds) tends to be a gradual process. Arguably more emotionally tolerable to patients' relatives, it is more legally defensible should a dispute arise following 'withdrawal' (see next chapter). Such decisions may lead to contention if all parties involved (medical staff, nursing staff and patient relatives) are not in agreement or arrive at the decision at widely differing points in time. (The method of withdrawal may also be contentious, even where all parties agree it is necessary.) Anspach (1987) found that doctors and nurses arrived at 'life and death' decisions via different routes, often coming to opposite conclusions. She found that Neonatal Intensive Care nurses would usually decide before doctors that the infant would not recover. Nurses' perceptions were said to 'transcend the technical' and were based on 'interactional cues' gained from extended periods of bedside nursing, whereas doctors relied primarily on technical data which was achievable whilst spending very little time with the patient. Thus, Anspach maintains that doctors and nurses use different epistemologies in making 'life and death decisions'.

'Withdrawal of active support' is a joint-decision between ITU and the Admitting Team Consultants. Agreement is not always achieved, since medical opinion may vary. In such cases withdrawal will not proceed:

"It is difficult when you wish to withdraw treatment and your Consultant colleagues sometimes may not quite agree, or may totally disagree. And it's very important, you don't actually go against them. Discuss it. And say 'O.K., well, let's give it a bit longer'. That's what tends to happen. It tends to take longer than it should do to come to the conclusion that was originally decided." (Consultant Anaesthetist, Specialised Unit)

The legal responsibility for 'withdrawal' rests with medical consultants. Generally, patients' relatives are not actively involved

in the decision (although it would be unlikely to proceed in the face of bitter opposition by relatives) but are kept informed of medical thinking on the matter. Anspach (1987, p.230) has commented:

". . . those who have the most patient contact (the nurses) and the most at stake (the patients) have the least authority in life and death decisions".

Four of the thirty relatives in the study expressed doubts about whether treatment should have been continued to the point that it had. In three cases the patient had eventually died and in the fourth case, although the patient survived he remained terminally ill. His wife commented:

"It makes you wonder whether it was all worth it".

Generally, neither consultants nor any other group involved can be one hundred percent certain of the outcome for individual critically ill patients. Thus, they tend to stress statistical probability, taking a complex of factors into account:

"I don't know for sure when I say somebody's treatment should be withdrawn. I can be 70% sure, 80% sure, statistically that is, but you then might ask 'what's going to happen to the other 25-30% of patients?'" (Consultant Anaesthetist, Specialised Unit)

Ensuring that the decision involves a number of suitably qualified professionals, spreads the load of uncertainty and responsibility.

Nurses tended to feel that Consultants (from Admitting Teams particularly), often delayed withdrawal decisions too long:

". . . more often it's that nurses feel that patients are being treated when we think they shouldn't be. Perhaps there's no point or they should be allowed to die with some dignity. . ." (Staff Nurse, Specialised Unit)

"I mean what worries me is, how will I die? . . . I would hate to die on an ITU. And I think, when we withdraw treatment from patients we all say 'well, I wouldn't want to go through this'. You know, if ever I was in this situation, somebody please stand up and say 'Will you let this person die?'. . . " (Senior Sister, Specialised Unit).

As reported by Anspach (1987), it seemed that ITU nurses usually concluded that support should be withdrawn before doctors made this decision:

"... they can let people go on and on and on and they really suffer ... and the relatives suffering watching them. I go off and cry sometimes it's that bad." (Senior Staff Nurse, Specialised Unit)

It appeared that doctors were making a 'scientific' appraisal of the situation based on probability of survival, taking into account 'hard' data. This is an inexact calculation in the individual case (see Chapter 8) and legal considerations add to the difficulty of arriving at a decision. This may be skewed by Specialisation, such that, if the element for which the particular doctor is responsible is improving, s/he may de-emphasise the wider context. Furthermore, given the emotional division of labour, doctors are able to 'walk away' from the patient and their relatives; bed-side nurses are not and remain in the emotional firing-line. As argued by Anspach (1987), it seemed that nurses accessed different epistemologies from doctors, in making life and death 'decisions'. They derived their assessment from what Anspach calls 'interactional cues' and Hilary Rose (1988) terms 'experiential knowledge', that is, knowing as part of labour and particularly women's knowledge which is based historically on caring labour:

"As a profoundly sensuous activity, women's labour constitutes a material reality which structures a distinctive understanding of the social and natural world." (Rose, 1988, p.72)

The nurses' knowledge, therefore, arose from 'care' work based on the patient as 'subject', rather than 'scientific' work (based on a Cartesian model) of the patient as 'object'. Indicative of the different epistemologies from which nursing and medical staff derive their 'data' concerning whether or not (or when) active support should

be withdrawn are their notions concerning 'an acceptable death' on the Unit. Typically nurses responses would emphasise the patient as 'subject', for example:

"When somebody is allowed to die with dignity, in that treatment isn't carried on when really it's pretty obvious that this patient is trying to die" (Staff Nurse, Specialised Unit)

For doctors, it revolved around "when all therapeutic interventions have been exhausted and the patients death becomes unavoidable"; thus the patient as 'object' is to the fore.

The patient as 'object' is in tension with an ethical approach stressing freedom of individual choice in moral conduct and the 'authentication of self'. Ledermann (1986, p128) comments:

"In order to develop a medical approach which is existential in its ethical content it is necessary to give up the objective standpoint of scientism and to re-discover man's (sic.) subjective world."

Nurses, at the bedside, remained empathetically connected to the patient and the patient's relative. As Bordo (1986) has pointed out, a cognitively female epistemology emphasises connected-ness and empathy rather than detachment and distance. In this context, nurses expressed considerable concern about what they perceived as a lack of 'dignity' of patients dying in ITU:

"And sometimes at the end when the doctors leave here and they've been doing a cardiac massage and I think 'why don't you let the person go?' and they leave them in such a mess with all the lines they've tried to put in. . ." (Staff Nurse, Specialised Unit)

"Sometimes I think there's no dignity at all in death in here because quite often it comes at the end of a big cardiac arrest with somebody's chest ripped open, you know, surgical instruments in their chest and all people jumping up and down on them, bleeding everywhere. I mean, it can be quite horrific. . . On the other hand, sometimes it's not a sudden, violent thing but they've been slipping away for weeks but nobody will make the decision to turn the drugs off which are keeping the blood pressure up. I mean, it sounds awful, you have people absolutely rotting away. Periphery shut-down and, you know, pressure sores

everywhere and you feel guilty. . . and their mouths break-down and they bleed and they look as if you haven't cleaned their mouth. They look so uncared for and yet they have had everything done for them and it still doesn't make any difference. It's so. . . (words fail her)" (Senior Staff Nurse Specialised Unit)

If the patient looks 'uncared for' this is likely to cause considerable distress to the nurse, since an integral part of basic nursing care is to produce a patient who looks and feels comfortable and clean. Such signs may erroneously appear to signal nursing neglect. The nursing of 'pioneer surgery' patients was a particularly contentious area, since their survival rate remained relatively poor. Nurses were concerned that sometimes, as they saw it, 'treatment' became 'experimentation'. Concerned, as they were with the patient as 'subject', this perceived archetypal treatment of them as 'objects' caused a particular ontological disjuncture for the nurse at the bedside.

iv) Childbirth - individual manifestations, technological routines

Much evidence now suggests that the instinctive state that enables a woman to labour spontaneously is connected with a complex hormonal equilibrium being achieved (Odent, 1984). The artificial disruption of labour at any stage may interrupt the establishment of this and may lead to further technological interventions to rectify the effects of the disturbance. In Obstetrics, blood transfusions, antibiotic therapy and the prevention of death resulting from rhesus incompatibility are examples of medical interventions which have undoubtedly decreased mortality. However, many techniques remain scientifically unvalidated. Indeed, Obstetrics (and Gynaecology) is not one of the Specialities which has practiced the highest level of evaluation (Tyson, et al, 1983).

Medical opinion claims that the fall in the perinatal death rate is

attributable to the near total hospitalization achieved in Britain from 1970 onwards, for example:

"... we realised that if we wanted to pursue our goal of reducing maternal and perinatal mortality, then the only safe place to have a baby is in a hospital environment. My generation ... still remember all that, going out on the Flying Squad, rescuing moribund mothers and dead babies and bringing them to hospital." (Consultant Obstetrician)

The assertion that 'the only safe place to have a baby is in a hospital' is disputed by Tew (1977, 1990). Using a 'risk-matched sample', she compared mortality figures between home and hospital deliveries and demonstrated home-births to have a lower mortality rate (see also Richards 1978 and Kitzinger 1979, concerning the risks of hospital birth). Overall the social class of the mother remains the best predictive device of mortality/morbidity outcome in maternity cases (Townsend and Davidson, 1982), such that:

"This is still the major problem one has to cope with, deprivation within society." (Consultant Obstetrician)

Research indicates that delivery is safer when carried out by midwives, and mother and child suffer more complications and additional interventions with each increment of technology (Jordan, 1978).

As in Intensive Care, there are economic and political factors affecting technology use. For example, one reason midwives liked to cross-check electronic fetal monitors (by manual palpation and pinard stethoscope) was that they were now, as one Staff Midwife put it, "quite old and don't always work very well". The use of often ageing equipment (due to cash shortages), like midwifery labour shortages, is an aspect of hospital obstetrics often ignored by those claiming hospital birth is

safer than home-birth (for example, a midwife cannot be called upon to work other than on a one-to-one basis during home birth). A further political economy influence, bearing on both areas, are the large private companies, constituting a powerful lobby promoting the use of technology, whose prime concern is the profit motive.

In obstetrics I intend to focus on electronic fetal monitoring (e.f.m.), firstly, because this technology is common to both areas under review and secondly, because it continues to be used routinely on many Labour Wards (including the one studied). This is despite there being no incontrovertable evidence to suggest that, for the majority of women, it is more effective than the 'low-tech' alternatives available (Banta and Thacker, 1979; Prentice and Lind, 1987).

Electronic monitoring is part of "a new order of Obstetric control" (Arney, 1982, p.94). It was introduced into hospitals in the 1960's. During labour, monitors record changes in the fetal heart in relation to uterine contractions. However, problems exist concerning the interpretation of results. Murphy (1981) demonstrated a 74% false positive and 12.8% false negative rate of fetal distress with e.f.m. (these are somewhat reduced when results are cross-checked by fetal scalp blood sampling [Godfrey, 1985] - this technique may, however, under-estimate the general degree of blood oxygenation [O'Connor, et al, 1979]). It is also possible that attaching a scalp electrode to the baby's head causes it pain (Inch, 1982); one Staff Midwife commented: "They tell you to put a clip on the baby's head when you're a student and you just do and then I put one on this baby's head and it moved and it suddenly clicks to you that the baby feels what you're doing and so I

don't think I'd like to put that through my babe."

The introduction of e.f.m. coincided with the decline in perinatal mortality and obstetricians inferred a causal effect (Edington, et al, 1975). Haverkamp (1979), however, found no differences in outcome between women monitored by auscultation (fetal stethoscope) and those monitored by e.f.m., except that the Caesarian rate was markedly higher in the latter. It remains unproven that e.f.m. is responsible for the decline in the perinatal mortality rate (Banta and Thacker 1979, Prentice and Lind 1987). An alternative explanation lies in factors such as: limitation of family size, abortion, better nutrition, genetic counselling, better prenatal and neonatal care. Although by 1982 there were five randomised trials on continuous e.f.m. supporting Banta and Thacker's conclusion that it was of little use for low risk women, these findings made minimal impact on the medical profession (Lumley, 1982 - she attributes this to the strength of the monitoring industry, fear of malpractice and hospitals' unwillingness to provide a bedside nurse [U.S. study]). The (U.S.) National Institute of Health and Human Development, the World Health Organization (W.H.O.) and the (U.S.) National Centre for Health Service Research (N.C.H.S.R.) also concluded that continuous e.f.m. is of little benefit used routinely. A study to explore the benefits of continuous e.f.m. in reducing the incidence of cerebral palsy found that this was not reduced in the group randomized to this method of monitoring (Grant, et al, 1989). According to recent findings, cerebral palsy is thought to result from a (as yet unknown) uterine event, rather than stemming from birth injury. One obstetrician interviewed commented:

"It's now becoming obvious that in the majority of babies who are found to have brain damage following birth, it has nothing to do with the

birth itself. Up until the late 1980's it was always assumed that if a baby didn't measure up in mental terms, then it had to be to do with the actual delivery. But now the thinking is that the majority of babies who are born and have brain damage, it's an event during the course of the pregnancy that has caused this, not the labour itself. And that's why you will find that many obstetricians, knowing this, will say that whatever happens they want to minimise the likelihood of being sued"

One might assume that if findings suggest that the majority of brain damage does not occur during birth, this might prompt a move away from the continuous monitoring of this event. However, the logic of the obstetrician's comments are that this finding may merely reinforce the use of continuous e.f.m., in order to confirm retrospectively that nothing happened during the labour that might be thought to have contributed to a 'damaged' baby. This indicates that in many cases the monitor may be present primarily for the protection of the obstetrician rather than the baby. A monitor print-out therefore aids the obstetrician in retrospectively controlling the definition of what occurred during labour. Thus:

". . . litigation, this was one of the main reasons for obstetricians insisting that their 'mums' have continuous fetal monitoring because if they don't and anything goes wrong with that baby, then the lack of fetal monitoring could well be blamed. . . Now you're quite right when you say if everything's quite straightforward, normal contraction, normal labour, no bleeding, no problems, a quick, easy delivery, then it would be very difficult for somebody to prove that the obstetrician or midwife had been negligent but you've only to go through one of those cases. . ." (Consultant Obstetrician)

J.H.: "Whereas, if you've got it on paper, then you've got evidence that nothing took place?"

Consultant Obstetrician: "Yes".

There is, however, no legal obligation to continuously electronically monitor childbirth (there is also no legal requirement in Intensive Care to keep a patient who is known to be dying attached to an electronic monitor and yet this is the routine practice [see chapter 7]). Such 'defensive' obstetrics is also related to the construction of women's

bodies as chaotic (see, Smart, 1991), requiring vigilant monitoring to detect any signs of the incipient deviance which may show itself at any time.

Given the lack of incontrovertable evidence supporting the use of continuous e.f.m., are the women at the Obstetric hospital given a choice over the type of monitoring employed during their labour? The hospital "Guidelines for Medical Staff and Midwives" (1990) state that for the 'Management of Normal Labour at Term':

'Monitor fetus with continuous monitoring with internal fetal scalp electrode and intrauterine pressure catheter unless LOW RISK with clear liquor and maternal mobility requested. In such cases intermittent auscultation with pinard, or external monitoring with CTG at regular intervals. All HIGH RISK or meconium stained liquor* continuous monitoring with internal fetal scalp electrode and intrauterine pressure catheter.'

As can be seen, even if the woman is in 'normal' labour, if she is 'high risk', the technological intervention prescribed is greater. To be intermittently monitored, the guidelines outline three criteria to be fulfilled and 'maternal mobility' should have been 'requested' (if it is not, the implication seems to be that continuous e.f.m. should be applied, regardless of the first three criteria having been met).

The general guidelines emanate from the Clinical Practices Committee and represent consensus management within the hospital. Staff also

*This is associated with fetal distress - the colour of the liquor will be known if these guidelines are followed, since they require the attendant to: 'Perform ARM - artificial rupture of the membranes - on all patients when cervical dilation is greater than 3 cms. to confirm normal liquor and encourage effective contraction'.

recognised varying Consultant 'styles' and sometimes Consultants gave written instructions either as protocols or annotations to patient notes. Consultants clearly varied in the emphasis they placed on continuous e.f.m., for example:

"We thought originally that monitoring was good and was something that was beneficial to everyone. The evidence is not there and it was simply not evaluated, like so many other things in medicine that are introduced but are introduced without proper evaluation. . . I'm not saying monitoring is wrong but the scientific evidence is that it isn't better than a midwife oscultating every half hour in the first stage and after every contraction in the second stage."

"At the moment we feel that it's still useful to have the baby's heart rate monitored continuously. . . "

The professional guidelines of the midwifery Code of Professional Conduct also represented a point of reference for midwifery staff.

Overall, the organisation culture of the Obstetric Hospital strongly favoured continuous internal e.f.m. - as one Staff Midwife put it:

"It's the done thing here to use a monitor". Various conventions about monitoring also attended different types of pain relief, for example, women with epidurals were always required to be fitted with an internal monitor. Continuous e.f.m., usually internal, was applied during induction or acceleration of labour. A complex situation, therefore, existed which operated and could be interpreted at several levels, leaving some scope in practice for negotiation. However:

"You've got to be very strong-minded not to have everybody monitored because you're questioned repeatedly if you haven't got a patient monitored. Repeatedly. And sometimes by the Sister in Charge. . . And, of course, Miss Y's patients actually have to state they don't want it in order not to get it." (Senior Sister)

Thus, labouring woman also had to be 'strong-minded' to resist the obstetric routines if the midwife was committed to implementing them.

In practice, either the woman had to express a preference not to be monitored or her midwife must positively practice non-routine intervention, which some, exceptionally, did:

"I wouldn't interfere if the woman was labouring normally. I would just say 'this is what I'm happier with and if you don't mind either way, I'm happier listening in with a pinard!' (Staff Midwife)

Generally, midwives felt more confident using continuous e.f.m., since many had trained at the Obstetric Hospital and were unused to relying exclusively or predominantly on other techniques:

"Having trained in a very high-tech place. . . I suppose I haven't got the experience or confidence, or I don't know any other way really. . . I worry in myself if I'm conducting a labour and I'm just doing it on my own back and I tend to worry more than with a monitor." (Staff Midwife)

This was reinforced by those in the medical (and midwifery) hierarchy who were unsupportive of alternative practices. Midwife-anxiety was an identifiable aspect in monitor use, which coalesced in the phrase: "I feel safer using it". This is not the same as: "The baby is safer if I use it", suggesting that the monitor addresses the midwife's insecurities about birth, such that: "You tend to be more relaxed if you're looking at a monitor". (Staff Midwife). Similarly,

". . . certainly when you've got it in black and white ('hard data') on the monitor, you know you're alright, you're not worrying."

"You know you're alright" is distinct from "you know the baby's alright" - which is the basis on which this technology has been propagated.

The protection offered' is not simply psychological (although many midwives interviewed confessed to feeling considerable anxiety for the baby during labour until they had actually witnessed it born in good

health)*, but again continuous e.f.m. is seen to offer protection in legal proceedings:

". . . I often think because of the way things are when you can be so liable, if you have a trace, people will believe what they see. . . it is a back-up for you . . . there's always someone who would be quite happy to take you to Court for thousands of pounds." (Staff Midwife)

This represents defensive obstetrics: again the monitor is there to protect the health care professional both at Law and against the chaotic female body, notwithstanding any protection it may or may not give the baby. The concern of staff centres on missing genuine fetal distress - moving to a forceps lift-out or Caesarian section unnecessarily appears less problematic. The latter might be more difficult to prove, while intervention itself may be taken to have forestalled disaster (even where the baby is born in perfect condition). Furthermore, once in the possession of a 'perfect' baby, the parents are unlikely to think of pursuing a case of malpractice based on unnecessary treatment.

Some electronic monitor use was 'unthinking':

". . . because we're used to using them all the time, we're used to looking at a monitor but if you're not careful, you can finish-up using them all the time". (Staff Midwife)

For some, midwives using monitors, had become tantamount to a compulsion:

*Dominique Pourre (Odent, 1984, p. 113), a midwife at Pithiviers, writes of her previous midwifery practice using interventionist techniques and emphasising pathology: ". . . I was so relieved by the sight of the baby; I would think: 'That's it, a baby boy, here he is, alive! I can hold him, I have the right. Oh, I was so scared he might not exist. Yes, just like you, the mother. I had the same feelings, the same anxiety'. . ."

"... it just gets to you after a while, it's like a drug. You need to know after a time, that the fetal heart's banging on, banging on, all the time. So that, you get a lady and she doesn't want it and you're listening intermittently with a pinard, and I still tend to glance across at the monitor. . ." (Senior Sister Midwife).

The latter statement again references the needs of the midwife. It is an almost loving invocation of technology and a revealing indication of the extent of monitor use by this midwife. It also signifies the extent to which for some midwives an electronic monitor is an integral part of the birth experience. This is encapsulated in the description of 'a good birth' in entirely technical terms by one Staff Midwife: "A nice trace, an intact perineum and good Apgar scores on the baby".

Thus, notwithstanding the inconclusive nature of the scientific claims for continuous e.f.m., the vast majority of pressures in the Obstetric Hospital worked towards its routine use: its prescribed use in the ever-extending category of 'high risk' patients (see, Graham and Oakley, 1981; Oakley, 1984), its use to monitor the effects of other technological interventions (including much pain relief), the psychological security and legal protection it is seen to offer midwives and the procedural and retrospective control of (the definition of what occurred during labour) it offers obstetricians.

v) Informed Consent in Obstetrics

Clearly if the midwife wished to resist routinely using internal e.f.m., it was helpful if she could cite the support of the mother, as well as recording that there were no specific indications for this procedure. This helped to spread the load of responsibility and cover her with the various hierarchies and to an extent in law:

"I think certain Consultants prefer ladies to be internally monitored unless they say specifically they don't want to be. But I think you can get round that by saying, 'And how would you like to be monitored?' and when you explain the differences, she tends to say she wants to be externally monitored. You don't actually say how you asked her because there are all sorts of different ways of asking questions to get different answers." (Sister Midwife)

"I think, well, it isn't the way to do it (artificial rupture of the membranes at 4 cms and application of fetal scalp electrode) but we have come to find different ways round areas we don't necessarily agree with . . . when women started appearing with Birth Plans, we all felt very stressed by them: 'Do they think we don't know what we're doing?' but now we rather like the idea of asking a woman if she wants something or has any great feelings about not wanting something. . . then if a woman turns round and says 'I don't think I want my membranes ruptured now, I don't want anything for pain relief. I'd rather walk around a bit', we can write that down in the notes and say 'patient prefers membranes to be left intact. Good external trace'. . . We've found that a useful way to get round some of the more interventionist rules that have been foisted on us." (Senior Sister Midwife)

The latter exemplifies the use of technology and 'hard data', i.e. 'a good external trace', to fend-off the use of other more invasive technology and techniques (illustrating how the same technology can be used to different - in this case counter-cultural - ends). Midwives, therefore, are clearly aware of the bargaining opportunities offered to them by 'informed consent' as well as those it, in principle, extends to the labouring woman.

Social science methodology textbooks (for example, Moser and Kalton, 1971) have long pointed to the impact of framing questions in certain ways in terms of eliciting particular answers. In the Delivery Room some midwives were, therefore, asking questions in such a way as to gain a particular response. If the expected response did not follow, the question would often be re-presented in a different way. A strategic use of questioning, in the guise of 'informed consent' was, therefore, often used to either up-hold or circumvent obstetric policy,

depending on the midwife's orientation. From observation, framing questions to uphold prevailing norms was more usual. More generally, questions were often couched in terms of "you don't mind if we. . . do you?" (procedure conducted in the absence of objection) or were spiced with euphemisms: " Shall we just 'pop' this in?" (fetal scalp electrode, "jungle juice" (Syntocinon), "medicine" (Syntocinon). As Lovell (1980) has pointed-out, a medical communication can lapse into a form of deception when what is said is diluted or neutralised to the point of distortion. Some midwives asked mothers: 'what do you want to do?', others told them what was 'normal' practice - sometimes in the form of statements of intent or a commentary on the action that was already underway, for example:

"It's more 'we're going to monitor you' and if they come back and say 'no', fair enough, but if they don't. . ." (Sister Midwife)

". . . a lot of people just start automatically strapping it (the monitor) to their leg* and tell them what they're doing, you know, as they go along." (Staff Midwife)

One Consultant Obstetrician discussing negotiations with patients felt:

"No matter how complicated something is, you can simplify it, in the way that, if you explain possible outcomes, 'if we do this or that or the other', you will actually be able to get them to tell you the outcome and the way to it that you really wish them to go, if they're sensible."

Clearly, from their own reports, many health care professionals were often fully conscious of the strategies they employed.

*Sometimes midwives attached fetal scalp electrodes without any explanation or consultation:

". . . we didn't want internal monitoring. John (husband) said he turned round, looked back and he (the baby) was all wired up. They didn't even ask. They just did it while I was 'out', while I was asleep." (Antenatal Interview)

Several midwives believed that women who did not want to be continuously monitored would state this unsolicited on arrival at the Labour Ward:

". . . they've heard of our system. . . they know they've got to speak early or else they'll get monitored" (Sister Midwife)

It was felt that such dissenters would tend to be middle class:

"On the whole, the mums who definitely don't want to be monitored are the middle class mums. But all the others who you see come here, we do it. It's our practice. But they do have a choice to say 'well, no we don't want it'" (Sister Midwife)

The above midwife states that the (by implication) working class woman has a 'choice' to object to monitoring but are working class women in an alien clinical environment likely to do this? Do they realise they have a 'choice' in the sense that 'choice' implies being able to conceive an alternative as realistic? Thus, social class may become part of the assessment of what is suitable in terms of technology for the woman giving birth. As argued by Shaw (1974), women from different social class backgrounds on occasion are likely to receive different treatment according to pre-conceived notions of what is appropriate for each group. Other research has found that middle class women do want a more active birth, whilst working class women want a medically managed labour, which they associate with speed, ease and safety (Nelson, 1983). From observation, it seemed that the announcement that the woman who had arrived in labour was 'a social worker' was sufficient to make certain midwives roll their eyes cynically and 'tut' impatiently, and 'teachers' were sometimes viewed with a similar suspicion, that their demands might be 'unreasonable'. Conveying similar antagonistic sentiments were stories, elevated to mythical status, of informed middle

class women who came in wanting 'natural childbirth' and 'end up having everything' (spoken with relish), contrasted with the flexible but uninformed working class woman who 'sailed-through' her labour.

Midwives were, therefore, well-aware that many women did now expect some right of consultation in childbirth, for example:

"I know my own approach to women has changed over the last few years . . . when I first qualified . . . I always explained things but it never occurred to me that I ought to specifically seek someone's consent. . . women have had more chance to read and see things in the press which maybe in some cases has fired them in not very helpful ways to us but that really has made them more vocal about what they want and don't want and I know I have changed my attitude." (Senior Sister Midwife)

Many midwives felt a certain ambiguity about some women wanting a greater say in how they gave birth. Clearly, a woman's wishes have to be balanced against questions of her own and her child's safety. However, midwives often expressed the desire that the woman and her birth-partner were well-informed (but not too well-informed) and that they knew what they wanted from the labour (but were not too insistent). Most midwives preferred them to be sufficiently informed to enter into rational discussion but this was tempered by a fear that such knowledge would cause them to challenge definitions put forward by staff. The issue is one of control. Who is to be in control and how is that control to be maintained? The detail of this forms the next chapter.

vi) Conclusion

An assessment of a medical technology should include factors such as; health benefits and risks of the technology, its financial effects and impact on social systems and values (Banta and Thacker, 1979).

However, this is only one side of the story. Complementary to this, I

feel, is a consideration of how social forces and social relations shape technology and its use. Social, political and economic factors are centrally relevant to the way medical technology is used: in other words, the use of technology is not simply 'medically' or indeed, 'technologically' determined. This aids an understanding of why some medical technologies are used despite a lack of confirmatory evidence of their health benefits and despite their risks. In many cases the extensive nature of medical technology use, as Waitzkin (1990) has pointed-out, is only rational if viewed within a political economy framework. At the same time, control (including the management of uncertainty) by the medical profession, as an occupational interest group and as agents of State and male power, is of central importance.

In ITU, I have considered factors and rationales influencing decision-making and organisational outcomes around technology use in terms of the political economy of through-put, particularly in the Specialised Unit where 'ethical' decisions had become susceptible to market mechanisms. McKinlay and Stoeckle (1988, p. 192) have noted how fiscal crises and regulatory efforts "are transforming the shape, content and even the moral basis of health care." The market for Obstetric and Intensive Care technology and pharmacology has made considerable profits for commercial companies involved in its manufacture. These products have to some extent contributed to beneficial outcomes but these have been overstated. In Obstetrics this has led to a considerable disjuncture between incontrovertible evidence and routine Obstetric practice; while the situation in Intensive Care remains largely unassessed. Waitzkin (1990) discussing continuous electronic monitoring for myocardial

infarction (heart attack) patients, points-out that its extensive application is not rational in terms of effectiveness but is in terms of its facilitation of capital accumulation. Thus, he speaks of the 'irrationalities' of health policy "that make sense when seen from the standpoint of the capital profit structure" (Waitzkin, 1990, p.218). Technologies such as computerized axial tomography (whole body scanner) and electronic fetal monitoring reflect very similar dynamics. Thus: "Without fundamental changes in the organisation of private capital, costly innovations of dubious effectiveness will continue to plague the health sector" (Waitzkin, 1990, p.218).

Waitzkin's contribution, whilst valid, appears rather economically deterministic and I would wish to locate any analysis more firmly in the social relations of both technology design and use. If we consider the power relations of medical practice it becomes evident that technology has a central role to play. Medicine is riven with uncertainty (Parsons 1951, Fox 1957, 1979, Davis 1960, Scheff 1963, Robinson 1973).

Medical technology has become an essential part of the medical 'conjuring trick', as Hart (1985) terms it, and as such is central to the manipulation and management of uncertainty in the medical situation (see chapter 8): this is the exercise of control at a symbolic level. At the practical level of the labour process, control is also an aspect of technology use. I have already discussed this in terms of controlling the patient, by submitting them to surveillance, coupled with a positivistic (and dualistic) approach which renders them as 'object'. This acts in tandem with drug technology, such as pain relief in obstetrics or sedation in Intensive Care, which aids the control of the patient's behaviour as well as their 'symptoms' (sometimes these may be viewed as synonymous). I also argue that in obstetrics,

electronic fetal monitoring is used as a surveillance device of midwifery conduct, rendering it more visible to doctors (superordinates), potentially, facilitating increased control over the subordinate group. The political use of 'informed consent' was also discussed, pointing-out how this 'ethical' notion may be strategically manipulated to either obstruct or (usually) uphold obstetric regimes. Selective technology use, hinging on social class assessments was noted.

In tension with its potential for surveillance of midwifery practice, midwives often viewed continuous electronic fetal monitoring as a source of psychological security and legal protection should their practice be challenged. Similarly, it aided the Obstetrician in retrospectively controlling the definition of what had occurred and, therefore, what they might be held responsible for during labour; notwithstanding any positive or iatrogenic effect it may have upon the individual birth.

I also considered the ethics around the 'withdrawal of active support', and the different epistemological stances and ontological experiences of doctors and nurses. The, usually, 'gradual' withdrawal of support was noted, allowing relatives (and staff) time to adapt to this decision. Its mimicking of 'natural' death also guarded against litigation; again aiding the physician in retrospectively controlling the definition of what occurred. This raises the question of the role of medical technology in the regulation of birth and death within a legal-rational society. It is to this, together with a more detailed exposition of the role of technology as a control device within the labour process that I now turn my attention.

CHAPTER 7

THE LABOUR PROCESS OF SERVICE DELIVERY AT BOTH ENDS OF LIFE

'Control' has been a central focus of the labour process debate. This chapter uses labour process analysis to further examine control issues around technology use in ITU and Obstetrics. The implications for the process of being born and dying are then considered.

1) The Labour Process and the Division of Labour

The labour process is central to Marx's analysis of capitalism. It is not only where labour meets capital but where capital is created. In the wage/effort bargain, workers will clearly wish to maximise the payment they receive. Capitalists will similarly wish to maximise the surplus value that they extract from workers. Their interests are not merely different but in conflict. The labour process is, therefore, not just a technical description of a mode of working but implies a process geared to the production of surplus value. Thus, Marx argues that the processes of capitalist production are incessantly restructured by capitalism's principal driving force, the accumulation of capital.

Technology represents an engine of change whereby the labour process is transformed aiding the reassertion of managerial control and further maximising the extraction of surplus value. Galbraith (1967) argues that the very pursuit of rational means to maximise profitability and efficiency, which was the driving force of nineteenth century capitalism, led to the development of new technologies which radically altered the organisation of work, the form of financial investment and ownership, and the class structure of society.

Although Baran and Sweezy (1966) in their analysis of monopoly capitalism recognised the crucial role of technological change, they made no attempt to analyse systematically the types of technological change characterising this stage of capitalist development; this was left to Braverman (1974). Braverman's primary focus is the degradation of work in the twentieth century. Identifying the types of technological change characteristic of monopoly capitalism, he analyses their impact on the nature of work organisation. He describes how the application of modern management techniques, combined with mechanisation/automation, secures the real subordination of labour and de-skills work in the office and manufacturing shop floor. He suggests that the separation of conception (management) from execution (labour) of tasks provides the driving force of the modern organisation and control of the labour process. This is combined with a routinisation of work whereby tasks are increasingly sub-divided. The in-built tendency under capitalism to increase productivity so as to cheapen commodities on the competitive market has the effect of continually revolutionising the means of production. The general trend is one of increasing automation allowing a decrease in the productive labour force. At the same time, the increasing scale of capitalist organisation necessitates an increase in the number of workers employed in control, co-ordination and regulation of the transfer of value. However, like manual workers, the majority of 'non-productive' workers are equally subject to scrutiny and Tayloristic methods of rationalisation and differentiation (sub-division of work into simple, repetitive operations) of the tasks they perform. The result is 'deskilling', where labour is reduced to the repetitive performance of

mechanical tasks and an intensification of work is achieved. Deskilling involves the worker being: "systematically robbed of a craft heritage" (Braverman, 1974, p.6).

A continuing debate has arisen from Braverman's work, concentrating largely on either deskilling and/or strategies of management control (for example, Zimbalist 1979, Wood 1982, Knights, et al 1985, Knights and Willmott 1986). Others have considered Braverman's methodological and theoretical assumptions (Burawoy 1978, Littler and Salaman 1982). Braverman, whilst generally acknowledged to have provided a valuable contribution, has been extensively criticised over the years.

Criticisms include:

- that 'craft work' is romanticised (Cutler, 1978);
- that the process of 'deskilling' is abstracted from the specific material and ideological conditions that favour it (Brighton Labour Process Group 1977, Elger 1982);
- that in stressing Taylorism as the predominant managerial approach Braverman ignores the complexity and multiplicity of control relations (Gorz 1976, Freidman 1977, Ramsey 1977, Edwards 1979, Burawoy 1979, Nichols 1980, Wilkinson 1983, Child 1985, Storey 1985, Knights and Collinson 1985, Littler 1990);
- that a restricted view of gender relations is presented (Philips and Taylor 1978, West 1982, Beechey 1982, Knights and Collinson 1985);
- that the contemporary labour process frequently involves re-skilling as well as de-skilling (Knights, et al, 1985);
- that the role of the 'subject' is under-theorized (Aronowitz 1978, Elger 1979, Cressey and MacInnes 1980, Littler and Salaman 1982, Knights

and Willmott 1990, Thompson 1990);

- that Braverman's use of the concept of 'skill' simplifies a complex phenomenon, since in practice 'skill' is socially as well as technically constructed (Rubery 1980, Pollert 1981).

Some have argued that such wide-ranging qualifications to the core theory have eroded it to the point of disintegration (Storey, Kelly, Rose and Jones, Coombs, all 1985). Following Thompson (1990), I feel that labour process theory can still provide a viable general framework for understanding the organisation of work in capitalist society.

A labour process approach to health care must be seen within a general Marxist perspective in this sector. As Aglietta (1979) points out, a major strategic requirement for the preservation of the wage relation is the necessity to reduce the value of the social reproduction of labour power represented by the production of collectively consumed use values. These must be restructured so as to reduce the cost of the service commodities provided. Carchedi (1977), has termed this an intensification of the rate of appropriation of surplus labour (as opposed to surplus value). Aglietta argues that the restructuring of the service industries will necessitate major transformations of their labour processes. This in effect keeps down the cost of 'the social wage' and maximises the return on capital investment represented by fixed assets in the National Health Service. The increased throughput of patients is part of the intensification of productivity for employees in the N.H.S. Such intensification of work serves to cheapen health 'commodities' on the internal market being created within health care.

This has its origins in the Griffiths Report (1983) which argued for private sector principles in N.H.S. management and began to regulate conduct within narrow economic criteria. Performance indicators were also introduced to enhance employee accountability to management. This was extended by the Department of Health White Paper in 1989, which proposed an internal market in the N.H.S. and emphasised efficiency-seeking, self-governing hospitals with competition for patients between hospitals.

In their recent work, some American theoreticians have called into question the continued professional dominance, autonomy and control of the medical profession. For example, McKinlay (1982) and Larson (1977, 1979) argue that doctors are being proletarianized, since they are increasingly employed in large bureaucracies where they are unable to retain control over the conduct of their work. McKinlay and Stoeckle (1988) point to changes resulting from corporate involvement in health care and new management techniques leading to further loss of control on the part of doctors over the location and content of their work. Haug (1973, 1977, Haug and Lavin, 1983) also argues that the professions (including medicine) are being de-professionalised. She specifically links this claim to the implementation of new information technology in the service sector. She feels this undermines the authority and exclusivity of physicians' knowledge and they become merely 'experts', on a par with managers. Others dispute the proletarianization and de-professionalisation thesis. Friedson (1983, 1986) argues that, although a process of 'restratification' has taken place, whereby some individual professionals (who do not belong to the 'elite') may have lost their

capacity to exercise control, for the professions as corporate bodies, this is not the case. He points to the continued strength of the Professional Associations to regulate and codify their work. Navarro (1988) also disputes the proletarianization theory, arguing that doctors never were the dominant force in shaping the form taken by medicine, other, often conflicting, social, political and economic forces were. He argues that doctors retain considerable skill and influence that prohibit them being seen as part of the proletariat. Annandale (1989), using case study material from obstetrics, suggests that there is a disjuncture between the obstetricians' inability to protect their interests as a corporate body and their ability to control the organization of everyday medical work. She therefore calls for more theoretical clarity concerning professional behaviour at the macro and micro level.

In broad terms I am in agreement with Navarro's proposition that medicine was always shaped by social, political and economic forces. Doctors never had complete autonomy and control over the circumstances of their work (the exposure of the National Health Service to market forces is however likely to bring this into sharper relief). At the level of the workplace doctors remain the dominant group and it will be these workplace relations of domination and subordination that will form the focus of the remainder of the chapter. Haug's contention that de-professionalization in medicine is associated with the implementation of new information technology has not been evident in Britain and I argue in this thesis that clinical technology enhances their power by further mobilizing the medical model, helping to mask continuing

uncertainty and being used in such away as to increase control over subordinate groups, including patients.

Labour process analysis concerns itself with the detailed control exercised at the point of production and the general control exerted within the system (Edwards, 1990), for example, in relation to the regulation of birth and death it is possible not only to see the control purposes this serves within the context of inter-occupational power struggles but also how this reinforces power relations within wider society. Although recognising, as Hyman (1975) has specified, that workplace control and negotiations operate within a framework of higher-levels of decision-making (these include the detailed terms and conditions of employment; the structure and policies of labour force management; other areas of managerial decision-making, such as investment programmes, financial arrangements and so on), the point of conflict, nevertheless, remains the point of production, since it is 'the frontier of control' (Goodrich, 1975), where the struggle for power within the productive process takes place. In health care the point of production may be taken to be the point of service delivery. We shall now look at control issues around technology in service delivery in ITU and Obstetrics.

ii) Control and Regulation in Obstetrics and ITU

The Normal/Abnormal Divide in Obstetrics

The National Health Service is highly hierarchical, patterned with relations of professional domination and subordination. These are structured by patriarchal and class relations in the wider society. Friedson (1970, 1977) has emphasised the extent to which the medical profession seeks to exercise control over related and adjacent occupations. The occupational colonisation of midwifery by the medical profession (Donnison, 1977; Oakley, 1976; Gamarnikov, 1978; Witz, 1985, 1992) has already been outlined.

Witz, focuses on the protracted debate around proposals for midwives' registration between 1860 and the passing of the Midwives Act in 1902. She describes how doctors progressively limited the sphere of competence of midwives and undermined their attempts to become a self-regulating profession. This involved the 'creaming off' of skills and tasks from midwifery and a 'pre-emptive incorporation' of other skills, i.e. skills or tasks are incorporated by one profession before they can be fully assimilated by another. Rather than opting to exercise complete incorporation of the midwife into nurse-like subservience, the medical profession followed a strategy which subordinated midwives in a restricted and reduced role. She explains this in terms of the time-commitment that labour entails for its attendant and the fact that poor women in labour were not only time-consuming but unremunerative. This is comparable to Intensive Care where the nurse acts in a 'caretaker' role for the absent and expensive Anaesthetist. The Registration of

Midwives Act (1902) formalised the 'normal'/'abnormal' divide between midwifery and medicine, enabling doctors to regulate and police this boundary (Witz, 1985, 1992).

Thus, Obstetricians are concerned with the identification of the pathological or 'potentially pathological' (see Haire, 1978) in pregnancy and childbirth. Rothman (1982) argues that a concern with pathology represents a 'man's eye view of womens' bodies', wherein womens' reproductive physiology is seen as a complex (one might add, chaotic) deviation from the male 'norm' and stressful to the entire body.

Thus, 'normalcy' - that which is not construed as 'pathological' or 'abnormal' - is also a matter of medical definition. It is, therefore, a socio-political construct, rather than a statistical average (MacIntyre, 1977). Illustrative of the historical relativism of obstetric 'normalacy', one Consultant Obstetrician defined the midwife role as: "anything which falls outside what in the current sense is a 'normal' labour." Specific constructs of 'normal' and 'abnormal' derive (as Rothman suggests) not only from a medical word-view but, since medical science is both cognitively male and largely peopled by men, a male world-view. Christine Webb (1986, p.9) writes:

"Women give and receive health care in a male-dominated setting. Although the majority of both patients and health workers are women, the structures and ideas which control the system are masculine. Even where women are treated and cared for by other women, these workers are trained in and authorised by male-defined values and practices."

The definition of the events of pregnancy and birth as 'normal' or 'abnormal' are, therefore, fundamental to the struggle over who controls childbirth. Furthermore, since the early twentieth century, the notion of 'pathological potential' has meant that pregnancy is defined as 'normal' only in retrospect. This allows obstetricians overall charge from the moment pregnancy is 'diagnosed'. The use of a 'risk allocation' does not reduce the obstetrically perceived uncertainty, since it is impossible to predict in individual cases who will develop problems. All women, therefore, are prone to the obstetric gaze (see, Arney, 1982), often filtered through the lens of technology.

Commonsense notions of 'normal' childbirth might substitute 'natural' for 'normal' and suggest that what is being described is something in its natural state. This would be mistaken. Marieskind (1980, p. 255), for example, argues that Caesarian Section is now "a routine, expected 'normal procedure'". Similarly, if we take the term 'normal delivery', as presently constructed within medical terminology in Britain, the error of such a commonsense reading becomes apparent. A 'normal delivery' refers simply to a non-instrumental vaginal delivery; the labour itself could be highly technological, for example:

"She was being internally monitored and she'd had artificial rupture of the membranes. . . . She'd had Pethidine. . . . She had a repeat dose of Pethidine. . . and an epidural. . . so she'd got a drip up. . . . She'd not made very much progress. . . so they started some Syntocinon. Eventually she. . . had a 'Normal' Delivery at seven o'clock. She was topped-up and there was pain relief all through, so she was very comfortable even when the baby was delivered." (Staff Midwife)

Functional to the maintenance of such a definition of a 'normal delivery' is the fact that midwifery and obstetrics divide labour into

distinct stages: (latent first stage), first stage, second stage, delivery, third stage. In this way a 'normal delivery' can be viewed as a discrete event belying the processional nature of experience*.

This 'separation' of the nature of the 'delivery' from the details of the 'labour' is clearly visible in the following account:

"She had spontaneous rupture of membranes and there was clear lychor draining, so the baby wasn't distressed. We put her on an internal monitor because she had an epidural. . . she'd got a drip to stop her dehydrating. . . because she wasn't contracting very well. . . they decided to put up some Syntocinon. . . and we put in an intra uterine pressure catheter. . . And she ended up, she needed a Forceps Delivery and for that she had to have an episiotomy. . . She wasn't disappointed about having a forceps delivery. I think the Midwives are more disappointed when someone you've looked after for all those hours ends-up with forceps. It's so nice to deliver yourself" (Staff Midwife)

With this degree of technological intervention it seems almost academic whether one more intervention is made at the end. 'It's so nice to deliver yourself' represents a considerable disjuncture from what has gone before. Even had a 'normal delivery' been achieved; the mother could scarcely be said to be in control of the birth.

Both labours described above are highly technological. In the hospital statistics one will appear as a 'Normal Delivery' the other as a 'Forceps Delivery'. Unpacked, the difference is not as great as it initially sounds.

*As one pregnant woman in the study commented: ". . . they describe it (labour) in three different stages and I never thought of separating the three different stages. I just thought of it as from beginning to end".

'Abnormal' occurrences during labour requiring the presence of a doctor included: maternal bleeding, maternal medical problems, meconium in the liquor, maternal pain between contractions, severe tears, a fetal heart trace flat for 20 minutes or more, 'no progress being made'. The latter is measured by the Partogram, in effect a time-table (Rothman, 1990). It charts various indications of 'progress in labour' but is centrally based on the proposition of an ideal curve of cervical dilation. As a yardstick for measuring the 'normalcy' of labour, it contributes to the parameters within which the woman must be managed. It, therefore, exerts control over the midwife's professional conduct as well as representing a powerful performance indicator, whereby the labouring woman is judged and may be found wanting. As an 'idealised frame of reference', it is open to the comment made by DeVries (1985, p.111) about 'protocols', i.e. since : ". . . any variation is regarded as abnormal, this routine view of birth anticipates intervention". Doctors must also be informed about any 'delay in Second Stage', this is again governed by obstetric 'time-limits', but how strictly these are adhered to will depend on an assessment by the midwife of the condition of the mother and baby. The midwife, therefore, retains some discretion over the situation.

Fetal distress (if the baby's heart rate is too high, too low or is experiencing decelerations) also requires the doctor to be called. This is a contentious area. Readings are open to different interpretations and no consensus exists regarding the precise definition of 'fetal distress', thus:

"It's just being confident enough to know what is 'normal' and there are slight, um, like if a woman is in second stage, it's normal to get

decelerations on a trace." (Staff Midwife)

"If there's fetal distress that I think (hesitates), I suppose you should never say it's ever normal if there are decelerations, but that I feel are worrying enough to refer to a doctor, then I would do; if there are decelerations that are incompatible with the stage she's at. . ."
(Senior Sister Midwife)

In practice, therefore, the midwife may exercise some discretion, interpreting signs within the context of labour as a whole.

Annandale (1988) notes the way in which midwives re-negotiate obstetric 'risk' in aspects of labour.

Midwives expressed themselves very carefully concerning the normal/abnormal divide. This underlines its highly political nature. The most serious midwifery misconduct is "exceeding their duties" British Medical Journal, 186 (1974). However, it is evident that 'abnormal' is not only a socio-political category (socially constructed and then used to further the power relations of a particular group), it is a category which is constructed and reconstructed in practice. Kirkham (1986, p.36) talks of midwives needing to mount a "defence of normalcy in the face of male-dominated obstetrics and its attendant technology and medical ideology"; such reconstructions of 'pathology' in context are attempts to do just that. The extent to which individual midwives were prepared to negotiate the procedural structure varied.

If midwives are managing patients within the limits of the 'normal'/'abnormal' divide and within the strictures of protocols and the time-tabling of the Partogram, their brief becomes comparable to the Intensive Care nurse and the assertion that midwives are becoming obstetric nurses becomes the more sustainable. The distinction is

between the subservience of the obstetric nurse who is the 'hand-maiden' of the doctor and the subordination of the midwife who maintains some degree of autonomy (Witz, 1985). The extent to which midwives within the Obstetric Hospital couched their aspirations and conduct in terms of Independent Practitioner status varied between midwives and appeared to depend on their willingness to negotiate the procedural structure and accept responsibility for justifying their actions:

"I think it depends how confident you are. . . because you are responsible for your actions. You have to be prepared to stand up and say 'I did this because I felt it was necessary'. I used to be a more of a 'toe the line job' but now, you do sort of start to say 'well do we need to do this?'" (Senior Sister)

The Fragmentation of Midwifery Competence

The 'normal'/'abnormal' divide governing the division of labour around childbirth undermines any notion that care will necessarily be provided by one person. At the Obstetric Hospital there is little continuity of care. Women in labour are not likely to have met their carers during the antenatal period (due to the system of rotation - every six months for the majority of staff) and continuity is likely to be further fractured by the shift system.*

Fragmentation of competence within the labour process whether it be through the task division of labour or the failure to follow the process through to completion has been associated with dissatisfaction and an

*The House of Commons Health Committee Report on Midwifery Services (February, 1992) endorses greater continuity of care and recommends that the hospital should ensure that the labouring woman has a midwife with whom she has been able to form a relationship during pregnancy.

undermining of worker's control (Blauner, 1964). The midwife undertook responsibility for the labouring woman only for the duration of an eight hour shift. Given an average first labour of twelve hours, primagravidas in particular, are unlikely to be cared for continuously by one midwife:

"If you think of a primagravida and a normal labour, you think of our shifts, there's no way you're going to see her through to the end."
(Staff Midwife)

These mothers might particularly welcome a continuity of professional carer and yet are the least likely to achieve that. Several interviewees hoped they would labour with one midwife but recognised this was improbable.

For midwives the eight hour shift represented a considerable fragmentation of their competence and experience as midwives. The following provides a good illustration:

"I looked after a lady last night but I didn't actually deliver her. I looked after her until she was fully (dilated) but I didn't actually deliver her. The last delivery I did I took over in second stage, so I didn't actually look after her in labour". (Staff Midwife)

In the first delivery the midwife is the main professional carer during the labour but not the delivery, in the second she fulfils this role for the delivery but not the labour. Many midwives expressed their dissatisfaction with this mode of work organisation. Occasionally, they voluntarily continued beyond the end of a shift, for example, when the 'delivery' was imminent, or the labour had been particularly traumatic.

Many midwives wished to care for the woman throughout labour and ideally to have involvement in her antenatal care. Occasionally

midwives had met the woman on the previous rotation:

". . . having known them antenatally and having been there for their birth, makes me feel more like part of it." (Staff Midwife)

Not only are the labouring woman and her midwife likely never to have met before, they are also never likely to meet again - making the birth a socially discontinuous event within the hospital experience.

Midwives usually did not remember the names of women whose births they had recently attended. Women often did not remember the name of the midwife who had attended their baby's birth. One Senior Midwife recounted delivering a woman's second child, whose first child, by coincidence, she had also delivered (derived from patient's notes): "Not that either of us remembered each other", she added plaintively.

Very occasionally, on a one-off basis, it was possible for a midwife to transfer from the Antenatal Ward to the Labour Ward with the labouring woman. This entailed the midwife (on her own initiative) seeking the approval of the Sister in Charge and arranging cover. One Staff Midwife had done this several times. Her account is quoted at some length since, as well as lacking the fragmentation of work organisation described earlier, it also illustrates the possibility of a non-technological, non-interventionist birth (to a woman with a previous Caesarian Section) in a highly technological hospital::

". . . a second baby, the first time she'd had a Caesarian Section for fetal distress in the first stage and a general anaesthetic. A horrible labour. She didn't feel in control. She didn't know what was happening and it was all over really quickly, so she hated the first time. . . I had her and about six or seven women to look after, who were okay, they didn't need much looking after. So I just sat with this woman for a long time, talking about what she wanted from her labour, pain relief, what she expected to happen. And she was really worried she was going to have a Section again. So we chatted for a long, long time. Listened in, monitored the baby's heart beat now and again and rang up her husband as the labour progressed and by about half past three in the

afternoon she was in really strong, good labour. So we went for a walk, which was really nice, off the Ward, the three of us went for a walk and by 4 o'clock she decided she wanted gas and air, so we walked down here (Labour Ward). It was really nice, just the three of us, no interference from anybody else. Just got the nightie and a few other things, walked down here. Walked into a room. Shut the door. And she wanted to walk around, so she walked around for a bit. She didn't want to get on the delivery bed because she had a bad memory of getting onto the delivery bed and being whisked along the corridor on this bed, feeling as if she was going to fall off. Feeling really unhappy about the whole thing. So she didn't use the bed. We put the bed away. Put the mattress on the floor and a bean bag and by about 10 to 5 she had a really strong urge that she wanted to push and I hadn't examined her at all. She'd been examined before, in the morning, before I came on and was said to be in early labour and so at 10 to 5 she just squatted down on the bean bag, and I could see the head and she just started pushing and she progressed to a nice normal delivery, with not a tear or anything. Which she was really worried about having stitches. It was a fantastic delivery. Really controlled, really slow. And I think it wouldn't have been as good if she hadn't had the whole afternoon with me to get to know me and I got to know her and what she was frightened of and she said that she felt safe and that she trusted me, which is the most important thing and it was just very nice. Very special. And I was feeling very privileged to be there with her and her husband and then her mother brought in her other child and the three of them just sat there, getting to know the new baby. It was really nice."

This midwife had spent the whole afternoon with this woman learning about her hopes and fears for the forthcoming birth and establishing a trust-relationship with her (this is exceptional since labouring women appear to largely be left to their own devices on the Antenatal Wards). The midwife is confident in accepting responsibility for the woman's care and creates the circumstances where the woman feels 'safe' to give herself up to the labour.

The organisational fragmentation of midwifery competence is functional to obstetric domination. The shift system and rotation deny the possibility of any linkage between the individual midwife and individual pregnant woman. This undermines any ongoing midwifery proprietorial interest in the individual patient on a client/profesional basis and

inhibits the development of a relationship over time between women as midwives and birth-givers (who together might forge a powerful alliance against male obstetrics - see Flint, 1988). Fragmentation of continuity is a good-fit with the obstetric model of childbirth both as a mechanical event rather than a psycho-social process and as a phenomenon fractured into distinct stages. Fragmentation is also traceable to a male image of the world, stressing 'separateness' ('objectivity') - the discontinuous - rather than female 'connectedness' (subjectivity).

Continuity of relationship between the midwife and the labouring woman was also fractured by staff shortages which entailed the simultaneous care of more than one patient. Midwives tended to prefer to use electronic fetal monitoring at such times, allowing them to "pop in and out and check it (the monitor)" (Staff Midwife). The monitor print-out provided retrospective details covering her absence. Midwives perceived 'natural' labours as more labour-intensive and so impractical at such times. In principle staff shortages would more easily be absorbed if all labouring women were attached to electronic fetal monitors, relayed through a central console staffed by a Senior Midwife. However, this option had been consciously rejected by the Director of Obstetric Services in favour of keeping the midwife by the bedside in the Delivery Room (even if this was not always achievable in practice). This reflected the philosophy that monitor readings should be seen in the context of the patient as a whole (this may not always be adhered to in practice and is in tension, for example, with the high status attached to 'hard data'). This corresponds to the conscious philosophy

within ITU of retaining a one-to-one bedside nurse and does not indicate any conscious effort to use technology as a cost-cutting device to reduce staffing and thereby intensify work (Child, et al, 1984, Harvey 1984). Nevertheless, monitors were used to alleviate staff shortages on both ITU (not the Specialised Unit) and the Labour Ward, covering for the temporarily absent nurse/midwife.

The Extended Role

The use of the 'extended role' involves the nurse or midwife acting in a proxy capacity covering specific medical tasks. This represents a sub-contraction of selective tasks to a subordinate adjacent profession, whilst remaining under the ownership and control of the dominant group.

All ITU nurses and midwives are expected to carry-out 'extended role' functions; the tasks involved are determined by the Consultant(s). Therefore, what constitutes an 'extended role' varies from one hospital to another (and sometimes between Consultants). Nurses/midwives are instructed and tested in extended role procedures; 'written up' if proficient. Examples of 'extended role' tasks are:

- ITU: taking blood from a line, hymofiltration, extubation, changing of trachiotomy tubes, weaning from a ventilator;
- Obstetrics: induction of labour (Senior Sisters only), siting intra venous infusions (Sisters only), verification of fetal heart trace as 'acceptable' on Admission (Sister in Charge only), taking blood (Sisters only), suturing simple tears and episiotomies, topping-up epidurals, putting in drips (emergency only).

Midwives at the Obstetric Hospital had greater proxy medical duties than

is usual, although some midwives felt this 'responsibility' co-existed with a considerable degree of medical 'interference':

"I think in some cases we have more responsibility than Sisters in other hospitals but probably we also have more outside interference (from doctors). If you can have both. We induce patients in labour, which is an abnormal thing, which many hospitals don't allow midwives to do, and until a couple of years ago, we also sited all the intravenous infusions. . ." (Sister Midwife)

This Sister perceived a paradox between the 'responsibility' delegated to midwives and the medically interventionist environment. It seemed more likely, however, that one begat the other and that the extent of medical colonisation of childbirth within the hospital meant that the wide-ranging extended role duties served potentially to incorporate the midwife still further into the medical model and away from the more traditional midwife role. A Consultant Obstetrician felt:

"Twenty years ago they (midwives) couldn't do anything apart from deliver babies. But now they've been given responsibility because they're good at it, of rupturing membranes whenever necessary, applying fetal scalp electrodes."

His comments seem to convey the sentiment that medical interventions of any order are more skilled and worthwhile than merely helping to bring another human being into the world.

In ITU in particular, there were considerable conflicts around 'extended role' duties. Although many nurses valued the benefits they felt these afforded the patient (e.g. not waiting for a doctor to arrive) and as enhancing their own competence, they were critical of under-resourcing, since they were expected to absorb such work without any increase in staffing. It represented, therefore, not only 'upskilling' but an intensification of work and some felt it carried an unacceptable risk to patients, since it meant that nurses were operating

under increased pressure and time-constraints. In effect, extended role duties had partly been used to enable increased patient-throughput (see, for example, chapter 6 in relation to the weaning of by-pass patients) and provide an extension of medical treatments using a subordinate group to facilitate this:

"This Unit has developed dramatically over the last 5 years, it's doing a lot more now. To keep up with that, without the co-operation of the nurses, a lot of the treatments just couldn't be given and a lot of that co-operation involves extending the role further and I think that if you're not prepared to do that you shouldn't be working here. " (Senior Sister, Specialised Unit)

In practice nurses often dictated quite marked changes in the patient's management, without extra financial recognition for this responsibility:

"We may be expected to do more than perhaps we're prepared to, or feel we ought to, as nurses. Because we tend to take a lot on ourselves with this extended role. . . they're very time-consuming. It's just extra" (Sister, General Unit)

Some nurses feared a lack of support if "something went wrong":

"I think sometimes we're doing things we're probably not covered for. . . we were talking about it yesterday. You're doing things and if something went wrong you probably wouldn't get any back-up for doing it. You've got a little competence card saying you're competent in doing A. B. C. and D. but you don't know how much back-up you'd get holding this competence card if something did go wrong." (Staff Nurse, General Unit)

Given the comments below, this fear seemed not unfounded:

". . . they're (nurses) 'signed' to say that they've been taught that procedure. They're then assessed as being competent in doing it, it might be only once more but then it is up to them. Just because I signed today that nurse X is capable of giving an IV drug and tomorrow she makes a balls-up of the whole lot, then it's nothing to do with me I'm afraid. It's up to her to stand up in Court and say 'Yes, I did it wrong'. Well the first thing there, is 'Well, have you ever been taught?' and they have a certificate to say they have. So the Judge or whatever says, 'Well, why didn't you follow the procedures you were taught?' If she can't justify why, well, then it's her head on the line, it's nothing to do with me." (Senior Sister, Specialised Unit)

Many nurses saw a danger of incorporation into the medical role:

"If you do any more, you're bordering on the medical model really as

opposed to nursing and really we're here as nurses not as doctors"
(Staff Nurse, General Unit)

This fear of further incorporation stemmed from a positive emphasis on basic nursing care and many feared a continued increase in what they perceived as technical duties would detract from this:

"I think when you've got staff shortages and you've taken on all these extended roles you still haven't got a justifiable excuse for standards of patient care dropping, even if you're busy and you've got four staff off sick, if you're still doing the extended roles and ignoring the basic patient care, such as mouth care, bed-bathing and turning of patients, then something's wrong. You've got your priorities wrong because at the end of the day, whether you're on the Ward or on ITU, you're still a nurse. We're not doctors, we're not Anaesthetists, we're nurses." (Staff Nurse, Specialised Unit)

". . . the little details, the finer points. You're the only one whose going to do that. The doctors aren't going to do that sort of thing. . . if we don't do it no-one else is going to come along and do it. Somebody else might come along and give the I.V. drugs or do some recordings but they're not going to do the basic things, the human things really." (Staff Nurse, Specialised Unit)

The nurse spends the entire shift at the bedside with the patient, thus, gaining an 'experiential knowledge' (Rose, 1988) of the patient based on caring labour. This results in a radically different epistemology to that of doctors (Anspach, 1987). Arguably, nurses will continue to gain 'experiential knowledge' of the patient as a human subject to the extent that they continue to care for their basic needs. To jettison this function, perhaps to an unskilled, auxiliary group, may entail a move towards the view of the patient as work 'object'.

Intensive Care is predicated on the basis of one-to-one holistic nursing care and some nurses saw the 'extended role' as supporting this:

". . . when you're sat at the end of the bed and you can give antibiotics or whatever or drugs or take blood gases. It's nice to be able to do that . . . it makes you feel as if you're caring for the patient completely really." (Staff Nurse, General Unit)

Overall, whether the 'extended role' was viewed positively or negatively depended on whether it was seen as an integral part of total patient care or a technical addition to basic nursing care, and was further influenced by questions of viability in terms of nurse-workload/patient-safety. The majority, in any case, felt it had 'gone far enough'. However, since the use of the 'extended role' in ITU appears closely linked to the political and economic restructuring of the N.H.S., the nurses' ability to resist this trend must be in some doubt.

Midwives, generally viewed the 'extended role' positively, relating it to 'total patient care'/continuity of care for the patient:

"We've looked after her all through her labour and it's a nice way to end if she does need suturing, just to suture. Also she's not having a strange face popping in to stitch down below." (Staff Midwife)

Suturing was a newly acquired extended role and midwives anticipated complaints from medical students and junior doctors who were no longer gaining experience in repairing simple tears (this had happened concerning drips, which had been withdrawn from their repertoire).

Some midwives wanted to do simple forceps 'lift-outs':

". . . when you know the baby isn't going to come and you think 'I've got to get the doctor to put the forceps on, I'm here, why can't I just do it now?'" (Staff Midwife)

This echoes a long-standing debate. Mrs. Elizabeth Nihill in the eighteenth century ("A Treatise on the Art of Midwifery") maintained:

I cannot comprehend why women are not capable of completing this business when begun, without calling in men to their assistance who are often sent for when the work is nearly finished; and then the midwife, who has taken all the pains is counted as little value and the young men command all the praise." (Aveling, 1872, p.109)

The patient might indeed prefer a forceps delivery performed by an

experienced midwife rather than an inexperienced doctor*. However, midwives conducting forceps deliveries would represent a major breach of the 'normal'/'abnormal' divide and from their inception the use of forceps has been jealously guarded by the male medical profession (Rushden 1991). On the other hand, the 'extended role' generally in Obstetrics represents a breach of the 'normal'/'abnormal' divide - although, the tasks are only delegated to the midwives and remain under medical jurisdiction.

Not all midwives welcomed 'extended role' tasks, again the fear was further incorporation into the medical model:

"... if we get too much on the medical side, I think you'll lose the essence of being a midwife, which is being 'with the woman'. . . I don't think we should get too technical or get too much into the Obstetric Team, we should stay within our role which is to be with the woman and to see she has the best experience she can." (Staff Midwife)

To risk being 'too much in the Obstetric Team' is to court the possibility of midwives becoming tantamount to Obstetric nurses. This will arguably be the probable outcome if midwives take on extra technical proxy tasks which remain under the control of doctors. To take on the care of the labouring woman in its entirety, including

*During the birth of my first child the doctor applying the forceps told the Senior Registrar supervising him that this was only his second forceps delivery.

the use of forceps, under their own autonomous control and regulation would, of course, be a different matter.

The Seduction of Sedation

Strauss, et al (1982) point to a considerable amount of 'sentimental work' carried out by health care professionals to gain the trust and co-operation of their patients, allowing 'instrumental work' to proceed unhindered. 'Sentimental work' emphasises the consensus producing aspect of emotional work. In doing so, it de-emphasises the possible conflicts of interest involved, which may lead to manipulation and coercion. It also ignores the power relations between actors which will structure exchanges. I now wish to discuss a major avenue open to health care professionals which may be used in conjunction or substantially instead of 'sentimental work' - drug technology.

Generally, in Britain, ventilator patients are given sedatives. These are used, for example, to facilitate intubation and aid tolerance to the ventilator. During weaning from the ventilator, sedation will be reduced allowing the patient to take over more of the breathing. Until the mid-1980's patients on ventilators were paralysed. There has been a general move away from this (except for certain conditions and some Units), given concerns over accidental disconnection and fears that paralysed patients may sometimes remain distressed but unable to communicate this. Ventilators are also generally more sophisticated

(allowing patients to take some breaths for themselves, where they are able), making 'fighting the ventilator' less likely. However:

". . . in the mid-70's this was dealt with by paralysing the patients. They very soon stopped fighting the ventilator. It doesn't take away the reason they and the ventilator aren't getting on but it stops them fighting. . . ." (Consultant Intensivist, General Unit)

Thus, complete control was gained over the patient to effect treatment.

It was the policy of both Units to administer 'light sedation'. In the General Unit this philosophy was inconsistently applied:

"My concern is that we do over-sedate. . . we find a suitable level of sedation and then we stick to it, whereas, what we should be doing, and I wish the nursing staff would do it, we should hunt the level of sedation up and down. . . ." (Consultant in Charge, General Unit)

Both Units operated a 'sliding scale regime' for sedation: the doctor wrote down a range within which the nurse was allowed to adjust the dosage. Nurses on the General Unit reported that they often found it necessary to go beyond this range (with the sanction of the Sister in Charge). This would be retrospectively 'written up' by the doctor:

". . . if you need to go over what they (doctors) have put down as a maximum, you normally do tend to. . . I would always go up to a Sister or Charge Nurse and say, 'Look, you know, he's on 5 mls. of sedation, which is the maximum, but he really does need more' because the majority of the time they do need more and the doctors are quite happy, most of the time, with what you've done." (Staff Nurse, General Unit)

This suggests a notional 'maximum' dose which is not the general maximum dose in practice. At the Specialised Unit too, nurses spoke of informally 'turning-up' sedation. Thus, in addition to informally weaning patients from ventilation, ITU nurses also informally adjusted sedated beyond their formally recognised limits to do so.

Particularly in the General Unit, the easy management and control of

the patient was a central concern in deciding 'appropriate' sedation.

"We sedate the patients with a continuous infusion, so we actually titrate the rate according to how awake they are and we try to keep them not totally flat in the majority of cases. . . . when the Anaesthetist wants to wean somebody off the ventilator, the sedation does depress the patient's own ventilation, so they want that stopped and then we can run into problems . . . where they become unmanageable without any sedation." (Sister, General Unit)

". . . you can always tell if someone needs more sedation, particularly, if you're starting to wean the sedation off. . . you'd always tell the doctor when he arrived 'Well, look, he was getting out of control and I've put his sedation up' (Staff Nurse, General Unit)

A nurse who had worked at both Units commented:

"They (patients) are more sedated here (General Unit). But it's blind sedation I feel. They just sedate. They don't try different drugs to see if one drug would work the best or better than the one they've got. And they also use vast doses of sedation with some patients and it's still not sufficient . . . my philosophy would be, if it's not working, withdraw it and find out what the underlying problem is don't just mask it up with gallons of sedation. . . whereas here, they just carry on, give some more." (Staff Nurse, General Unit)

ITU nurses are generally able to exert a high degree of control over their semi/unconscious charges. They are used to carrying out a high level of routine procedural care and patient-observations, unhindered by the patient's own interventions and may not, therefore, be tolerant of behaviour which may be interpreted as unco-operative:

"There are still Units who believe paralysis is a way of managing patients. It's much more difficult for the nursing staff if the patient moves about, much easier if they lie still." (Consultant Intensivist, General Unit)

"Some patients are very co-operative, they just lie there . . ." (Staff Nurse, General Unit)

Sedation may become as much for the comfort and convenience of the nurse as the patient:

"I think there is an attitude, which I try and fight against but which I succumb to as well, that the 'proper' ITU patient lies there and doesn't move and doesn't do anything and it's very tempting to over-sedate."

Treating the staff really by treating the patient." (Staff Nurse, Specialised Unit)

Control, therefore, emerged as a central issue around sedation. In the General Unit a major aspect of sedation appeared to be to control and suppress the patient. In the Specialised Unit, although sedation was used to suppress 'uncooperative' behaviour, the philosophy held sway that co-operation was more likely from a patient sufficiently alert to understand what was occurring and be capable of being reassured.

Sedation was seen as a means of manipulating co-operation, but this time the emphasis was on achieving co-operation, where possible by turning the sedation down. Nonetheless at the Specialised Unit:

". . . if patients can't be controlled by good analgesia, discretion and sympathetic nursing care, then they will get small bonus doses of maybe an hypnotic. . ." (Consultant Intensivist, Specialised Unit)

Midwives too, may find it easier, to secure co-operation and/or compliance from labouring women by administering drugs. At the Obstetric Hospital 52% (1989) of births involved some form of anaesthetic involvement (General Anaesthetic or epidurals); one third (1989) involved epidural anaesthesia (59.8% primagravidas). When the woman arrived at the hospital, unless she was pronounced in 'established labour', she was admitted to an Antenatal Ward. Here women reported feeling very much left to their own devices, for example:

". . . I felt they thought I was being a bit of a silly girl really getting upset and distressed. . . I never saw any of the day staff at all, until they just came and said 'we're sending you down to the Delivery Suite.' . . so I didn't feel the staff on the Ward were perhaps sympathetic at all." (Postnatal Interview)

It is arguable that this lack of affective support added to the need for

chemical pain relief. Rosengren and Devault (1963, p.202) have termed chemical pain relief a 'technical, mechanical and personally neutral means' of relieving pain, which renders it complementary to a mechanistic view of labour. Unless the woman developed complications or progressed to late first stage, the signal for her transfer to the Labour Ward was when she, or the staff, felt she required chemical pain relief.* Requiring pain relief, therefore, tended to be the main prerequisite for transfer from the Antenatal Ward. This builds-in the assumption that pain relief will be required as a feature of transfer.

Epidurals are available 24 hours a day on demand - notwithstanding contra-indication. The degree of pressure midwives exerted concerning epidurals varied (as with other forms of pain relief). Some midwives appeared reluctant to deal with the pain of labour, making them quick to suggest this course of action. Others positively enjoyed conducting labours where very little pain relief was used precisely because these made more demands on their resources, for example:

". . . I really enjoyed looking after her (a woman labouring without chemical pain relief) because you have to give your total. So that can be very satisfying." (Sister Midwife).

* As an in-patient at the Hospital (for five weeks intermittently) before the birth of my second child, I came to know some staff quite well. Several advised me (including a Registrar Obstetrician) to leave it as long as possible before transferring to the Labour Ward, because of the physical constraints and policy measures this was likely to involve (for example, the likelihood of continuous e.f.m., artificial rupture of the membranes, immobility). Hence, I did not transfer until 7 cms. dilated. This troubled some staff who kept suggesting that I might like to 'go down and get something for the pain'.

As argued in chapter 4, it is possible to see the labouring woman and the pain relief system as a socio-technical system. Following on from this the degree of open-ness or closedness of the socio-technical system is related to the degree of alienation experienced by the worker (Blauner, 1964). The degree of open-ness or closed-ness refers to the possibility of the worker intervening in the process; closed-ness is associated with alienation. Oakley (1981a) maintains that there is an association between a highly technological birth and post-natal depression.

Moreover, in both areas, if the patient did not appear to be in pain or out of control, the situation appeared more generally under control; less uncertain. One was not, therefore, merely using the (drug) technology to mask pain but to mask uncertainty. In ITU, a Consultant at the General Unit, felt it was sometimes necessary to either heavily sedate or paralyse patients in order to re-establish control:

"... it (the use of heavy sedation or paralysing agents) is done occasionally in this ITU when things are out of control just as a way of regaining control of the situation."

Sedation, therefore, is one aspect of technology that aids the management of uncertainty in acute medical situations.

Midwives also used birth partners to control patients (see Arney and Neil 1982, Rothman 1982). They felt that, especially in advanced labour, a woman would more effectively take instructions from a familiar voice. This appeared partly compensatory for their own lack of prior relationship with the woman:

"I mean, they will relate to a voice they know rather than someone who

they haven't seen, well haven't ever seen really." (Staff Midwife)

"They're very good (birth partners), very helpful. They know the woman far better than you do. They can help you, especially when the going gets tough. She's more likely to listen to them than some woman she's met for the first time a couple of hours ago" (Staff Midwife)

Danzinger (1979) has noted that the interactions of hospital staff with the labouring woman and her birth partner tend to encourage a norm of "manageable patient behaviour", advantageous to the hospital work routine rather than the promotion of a choice of birth options. Thus, birth partners may be enlisted to 'police' the patient's behaviour and ensure her compliance (particularly when they are the woman's sexual partner - given patriarchal relations):

"They'll talk to their partner and try and reassure them or perhaps get a bit angry with them if they're losing control. They can perhaps calm her down and shout at her a bit better than you can" (Staff Midwife)

"If you get somebody who is going to be very unco-operative, you need someone who can actually get through to them." (Staff Midwife)

Some commentators (Rothman 1982, Odent 1984, Barbour 1986) question whether a male partner's presence is necessarily supportive to women in labour. Rothman suggests that the father as 'coach' or in a 'directive' or 'supervisory' role exemplifies the traditional patriarchal role .

In Intensive Care matters were rather different, since relatives were generally asked to leave when the patient was receiving treatment. Relatives were, however, sometimes used to 'police' the patient from pulling at tubes, ventilator tubing, and so on , especially in the case of children (who were more lightly sedated) but predominantly in ITU, sedation was used.

Changing Skills in ITU and the Labour Ward

In both ITU/ Obstetrics it seemed nursing/midwifery staff used monitoring technology in concert with their original craft techniques. For example, most midwives continued to palpate contractions manually despite the woman being continuously electronically monitored. In ITU nurses continued to stress the importance of 'looking at the patient': their complexion, respiration, demeanour, and some monitor readings were cross-checked, for example, blood pressure readings would periodically be taken 'on the cuff' (Child, et al, 1984, Harvey 1984). Electronic monitor results were, therefore, viewed within the context of data available from other sources and not treated uncritically:

"Personally, if the woman was wired-up to all the machines that are possible, I would still rely on my hands. . . I would never turn to the machine and say 'Goodness me, those contractions are going right off the top of the paper, she must be in really strong labour' (Staff Midwife)

Indeed, external electronic recording of contractions was considered potentially inaccurate thus, doctors often asked midwives: "What do they palpate like?" During the birth of my second child the midwife told the Registrar that my contractions were far stronger than shown on the monitor and this happened during observations. Conversely:

"On the trace they might be contracting brilliantly and on palpation they're not going to get the patient to second stage. . ." (Senior Sister Midwife)

Midwives also often asked mothers about the strength of their contractions. Thus, indicating that the manual skill of palpation was still used and valued by midwives, that doctors still recognised the accuracy of palpation and that midwives still tended to ask the mother how she perceived the strength of contractions despite continuous electronic monitoring. Generally, midwives only listened to the

fetal heart during electronic monitoring if the readings were causing concern; this was apparent from both interview and observation (sometimes a midwife said she had 'confirmed' a monitor reading with the pinard). Some, however, continued to use a pinard periodically to cross-check the accuracy of the machine, a few did so regularly:

". . . even if a woman is being monitored internally or she's got an epidural, I always use a pinard to listen, at least every half an hour in first stage and definitely after every contraction in second stage." (Staff Midwife)

". . . there's nothing like your own ears, you know, because even monitors can be deceiving at times." (Staff Midwife)

Machines may be mal-functioning due to age and external monitors may double the signal (representing an abnormally low heart-rate as normal), occasionally they would pick-up 'artifacts' like the mother's own heartbeat or pulse.

The manual palpation of electronically monitored contractions also yielded additional information that could not be obtained from the machine, for example, the position of the baby and whether the baby's head was descending. It also meant that physical contact was made with the labouring woman, since palpation entailed the midwife sitting with her hand on the woman's abdomen; many women found this physical contact reassuring. The latter was also a positive by-product of the continued manual monitoring to cross-check electronic instrumentation on Intensive Care (Harvey, 1984). Although electronic monitoring had not led to a deskilling of the midwives' competence in assessing the patient on a more manual, craft and sensual bases, it had in some cases undermined their confidence in relying exclusively on such methods.

Continuous electronic monitoring in obstetrics impact on the labour process in other significant ways however. The monitor print-out acts as a surveillance device over midwifery practice (since the trace had to be annotated with all treatment - or care, for example, if the patient was turned over - alongside the reading at that time). This renders the conduct of the midwife highly visible (even during attendance at a 'normal' labour); as well as monitoring the performance of the mother (the latter noted by Arney, 1982). It, therefore, potentially undermines the control of both. Given that information is power, the fact that some doctors bypassed the midwife, gaining information directly from the trace further erodes her control (I have, however, noted some negotiation by midwives in this area, for example, fetal distress was not always immediately reported to doctors although medically defined as 'abnormal').

Conclusions

Braverman has linked intensification of work with routinisation of tasks and deskilling (increasing task differentiation). In ITU and Obstetrics the nurse/midwife had been the subject of 'upskilling' ('extended role' duties). In using the term 'upskilling', I am aware of the political nature of 'skill' and recognise that within a different ideological setting, less technical and more nurturing care-based skills (such as those carried out traditionally by the nurse) might be considered 'superior'. In the Specialised ITU, in particular, given specific material conditions (the implementation of an internal 'market' for specialised operations), 'upskilling' has been linked with an intensification of work, while in both ITU and obstetrics the range of medical treatments given and the intensification of medical

interventions generally, has also largely been facilitated in this way. This represents an extension of the medical model in both areas and a further incorporation of nurses and midwives into this framework.

Despite 'upskilling' a procedural routinisation and regulation of work has taken place in these areas (this is associated with the 'deskilling' of the patient in the art of coping and decision-making around birth and critical illness/death), such that routine technological procedures have increasingly been adopted around the conduct of birth and death. The next section looks at the impact of this procedural routinisation and asks what purposes it serves.

iii) The Regulation of Birth and Death

The doctor's grasp over life starts with the monthly prenatal check-up when he decides if and how the fetus shall be born; it ends with his decision to abandon further resuscitation" (Illich, 1976, p. 45).

Routine technological procedures have increasingly been adopted around birth and death. It is primarily the regulation by technology of death that is explored here, since much has already been written on the routinisation of birth (see, for example, Mariskind 1980, Oakley 1980, Rothman 1982, 1990, DeVries 1985).

Time is a key feature of work organisation. Giddens (1979, p.210) sees "the control of time as a resource in the structure of domination" and cites Mumford's (1973) characterisation of the clock as "the quintessential power machine in industrial society." (There are no

clocks in the birthing rooms designed by Michel Odent at Pithviers [Odent, 1984]).

Medical timetables structure physical processes and events, creating sanctioned definitions and medical controls (Roth, 1963). Time-tabling is a feature of both ITU and Obstetrics (the Partagram is also a type of time-table, see Rothman, 1990). In both areas 'observations' are recorded at set time intervals (depending often on the perceived condition of the patient). "Time limits" are also set concerning the progress of the patient. For example, doctors sometimes gave a critically ill patient 48 hours to improve pending a decision to 'pull-out'. Similarly, the labouring woman may be given a specified number of hours to progress before further intervention is undertaken. In Intensive Care time-limits often contained a hidden social agenda. They allowed time for both relatives and staff to absorb the fact that the patient was about to be 'allowed' to die (in Obstetrics too they may be used to signal that if 'progress' does not occur, a substantial intervention will take place). Apportioning time around birth and death (which is integral to the mechanistic approach) appears a good-fit with the perceptions of 'reality' of many labouring women/patient's relatives, who often expected accurate information about how long it would take a baby to be born/their relative to die (this is only possible with Caesarian Section and 'brain death').

When it is decided that all therapeutic interventions have been exhausted, with no apparent improvement in the patient's condition, 'withdrawal of active support' may be invoked:

". . . they won't die unless you withdraw the treatment. They're on such a large amount of drugs and that you can keep them alive for however many weeks." (Staff Nurse, General Unit)

Implementation of this decision also involves the management of time and is highly socially structured. It generally does not represent a 'switching off' of technology as depicted in popular mythology (this applies only to 'brain death' but a process of withdrawal.

Support tends to be withdrawn gradually in order to regulate the patient's physiological decline. Thus, there is a procedural attempt to regulate, routinise and produce a standard death. This mirrors concerns to routinise birth (see Marieskind, 1980). Devries (1985) comments:

"The experience of birth is influenced by the degree to which it has become a standardized routine"

The same may also be said of death.

The drugs supporting the cardiac function are usually the first to be withdrawn:

". . . we don't tend to withdraw everything instantly. We tend to pull out on various systems. In other words, you pull out on heart support, take away some of the drugs keeping the blood pressure up. And then pull out on respiratory support, turn the oxygen down." (Consultant Intensivist, Specialised Unit)

In death as in life the body is viewed systemically and treated, or in this case, treatment with-held, on a systemic basis. The withdrawal of technological support makes 'death' very visible:

"The first patient I paid attention to dying was a girl, a 'pioneer surgery' girl. She was on a monitor and had all her infusions and was on a ventilator. . . It is very strange really. . . you can watch the blood pressure, watch the heart rate, see everything that happens. . . you can't just take them off the ventilator really. So I was quite fascinated in a way to see how people could die. But gradually their heart just fails, their cardiac output just reduces and reduces. They reduce the oxygen, so they put it at just room-air, so that they're not

getting extra oxygen . . . but the ventilator will still keep their chest moving and won't stop until they switch it off; they have to wait for the heart to stop." (Staff Nurse, Specialised Unit)

The ventilator continuing to inflate and deflate the chest of the dead patient, may initially cause some ambiguity for the relative(s) about whether the patient is dead or alive (the most extreme ambiguity is 'brain death'). At the same time, there is the graphic depiction of death on the oscilloscope. Significantly the 'straight green line' on the oscilloscope has become a compelling late twentieth century image of death, while the electronic alarm signal has replaced the (organic) death rattle in the popular consciousness. Arguably this indicates the extent to which 'high-technology' death has now been absorbed into the range of possible expectations of 'normal' death (see Mariskind, 1980, who argues that Caesarian Section has now come to be seen as a part of 'normal' birth experience).

The Impression Management of Death

If the drugs supporting the patient's various systems were simply 'switched off' (even allowing for the continued attachment to the ventilator) death would probably occur very abruptly. This would arguably render medical staff more susceptible to charges of positively 'killing' the patient and relatedly, death would appear less like 'non-technological death', which, notwithstanding the provisos rehearsed below, tends to occur over a number of hours:

"If someone's going to die. Unless it's a road traffic accident, or a traumatic bleed, or a sudden bleed or they've had a heart attack, they die slowly. They die in 6 hours, 12 hours. They don't suddenly drop down dead, on the whole. And it's better generally, if the relative has a little time with their loved one before they die and so . . . give them a little time with them deteriorating, withholding treatment. I think it's better to take things away slowly rather than switch things off. It's still only a relative thing. It may be only 2-3 hours, it

may be just a morning. It is also not as positive as switching things off. If you're withdrawing something they're on, it's not the same as switching things off. They usually ask you about this. They say, 'Are you going to switch the ventilator off?'. We say 'no, we're not'. Because that's a very positive act, as near to pointing a gun at someone and shooting them. You've not only made the decision to withdraw treatment, you've actually done it and so it's a withdrawal process." (Consultant Intensivist, Specialised Unit)

This model of withdrawal as a process is favoured by the British Intensive Care Society. It is also the preferred method of withdrawal in the United States where patients' relatives have at times resorted to litigation over such issues:

"So the actual switching off of a patient is a very difficult situation and it actually hits the press sometimes in the States. Recently there was a person who was being ventilated for twenty years in the States. . ." (Consultant Intensivist, Specialised Unit)

The strategy to withdraw technological support in stages, in order to 'mimic' the more gradual decline of 'natural' death therefore, appears to serve a dual purpose. It allows time for the emotional adaption of the patient's relatives (and the health care professionals) to the patient's imminent death. It also allows death to be presented as a less dramatic disjuncture. If death appeared too abrupt or professionally induced this might become the subject of litigation. Legal considerations were, therefore, greatly to the fore where withdrawal of technological intervention attended death.*

Nevertheless, having decided on withdrawal, the 'gradual' method of proceeding is not always uncontentious. On the Specialised Unit, a Consultant Anaesthetist described a recent occurrence where nursing and

*This might not be the case, for example, in a country such as The Netherlands, where euthanasia is not illegal.

medical staff had disagreed, not about the necessity for withdrawal but about how this should be carried out:

" . . . three of the Consultants on Intensive Care had discussed when to withdraw treatment on this child who obviously 'wasn't doing' and we'd had him there for a long time and the Paediatric Consultant eventually agreed that it was a good idea and the nursing staff thought it was a good idea. Everyone was happy that treatment was withdrawn. And this child was still responding individually, was able to open his eyes and was breathing half of his breaths himself, so he was able to do everything. So he fulfilled the criteria of brain stem death in no way at all. So you can't switch him off, switch his ventilator off because he will keep on breathing and we could withdraw his support: his heart was pounding away, his volume, his fluids, because they were actually keeping his pressure up, and allow him to just settle down peacefully on the ventilator, give him some pain killers, let him sedate, let him drift off to sleep. Nice peaceful death. The nursing staff felt that this was such a protracted way to die for a child with the parents around, that they were insisting that he was extubated, that the tube was taken out and that he was allowed to sit in the arms of his parents and die that way. X (one of the Consultant Intensivists) had a lot of problems. He had a lot of heart-ache over it and it got quite heated on the Unit . . . it upset X, it upset the nursing staff and they got round it by (hesitates), they had to do what the consensus of medical opinion says because they are the people who are in control of those patients. . ." (Consultant Anaesthetist, Specialised Unit)

In this context the Consultant stressed that the medical staff were not only responsible for the patient's treatment but they, as he termed it would, 'carry the can' in the case of complaint. Clearly litigation was feared should the child be extubated prior to the cessation of his heartbeat. It can be seen that the use of technology around death is as much affected by legal considerations as is the use of technology around birth: so that fear of litigation affects the way in which we die as well as the way we are born/give birth.

A Technological Rite of Passage

'Brain death' is perhaps the ultimate technological death. It becomes apparent that it is only the technology that is affording the patient the appearance of life. 'Brain death' describes the situation where the brain stem is massively damaged or destroyed and there is no

communication between any neuronal activity in the brain and the rest of the body. Fundamentally, the patient will not breathe unassisted. The contention is: that one is essentially ventilating a corpse. Meanwhile the bed is blocked and the relatives may be left with false hopes for the patient's survival. The patient may look perfectly well, as if merely asleep: they will be pink, their heart will be pounding, their chest rising and falling. This is likely to present an incredibly ambiguous, distressing and unintelligible spectacle to the relatives (contention has raged in the past in the media about this area and continues to surface from time to time):

"The patient's pink, warm, you know, and sometimes there's, you know, hardly a scratch or graze on them really. Their head's taken all the injury and sometimes you can't really see any visible signs". (Staff Nurse, General Unit)

". . . and the children, they look like angels, little angels. Dreadful for the relatives. Dreadful, dreadful." (Staff Nurse, General Unit)

Some regulatory technique is necessitated by this impasse, since the patient does not fulfil the 'normal' criteria of 'death', for example, no heartbeat, cessation of breathing, complexion turning blue. Some other criteria must, therefore, be substituted for these in order to allow disconnection from the ventilator. Thus, 'brain death' is the occasion when death on the ITU is at its most formally regulated. Statutorily laid-down tests (agreed by the Royal Colleges) are performed (twice) to determine its presence. These tests represent a 'diagnostic procedure'; they confirm the diagnosis of 'death'. This represents a statutory, procedural regulation of death necessitated by technological innovation. Prior to the introduction of 'brain death' criteria the patient stayed on the ventilator until the whole brain died which:

". . . could take months. And the brain just starts liquifying and comes out through the ears, basically, and everywhere else. . . " (Staff

Nurse, Specialised Unit)

The criteria embodied in the tests represent a policy based on positivistic medical science which attempts to 'objectify' and, thereby, formalise and regulate this uncertain situation where the patient may appear alive but is deemed to be clinically dead.

One respondent faced the situation of her husband being declared brain dead. She felt great confidence in the 'brain death' criteria, as she put it: 'they do it by the book'. She felt her husband 'wasn't there any more'. An Evangelical Christian, despite the technological nature and setting of her husband's death, she reported that she had "an image of J. (her husband) as freer and happier than he ever had been and I had in a way to celebrate with him, be happy with him". She had an impression of her husband "praising the Lord, dancing with the Lord". By choice, she had not been present when the ventilator had been turned-off and remained in the Waiting Room seeing him afterwards. When she saw him, she felt: "God had taken him home". The mystical in the face of the technological. The religious experience of this woman concerning her husband's death seemed unaffected by the human agency involved in its regulation and the technological nature of its enactment.

In practice, once the first set of brain death criteria tests had been performed, if the patient met the criteria, they were 'dead' and the second set were a formality:

"The first round the patient is dead anyway. There's no need to do a second set of tests. It is a pure formality. Round one is to let you know there is no way out. And round two is to let other people know. So you've made the decision on the first set of tests, that this person isn't going to survive and you say, 'Well, I'll go and discuss with the relatives, go and discuss with the Consultants and anybody else, the

nursing staff, that this is the situation'. Then you go on and do something about it. . ." (Consultant Anaesthetist, Specialised Unit)

Some nurses preferred to watch the ' criteria' being 'demonstrated' on a patient, since this helped to establish in their minds that the patient was dead. Some Consultants allowed patients' relatives to be present while the second set of tests were conducted for the same reason:

"Frequently I ask the relatives if they wish to be with me for the second set of tests. . . It's one or two relatives or I've had 5 or 6 in at one time, there when you perform 'the last tests'" (Consultant Anaesthetist, Specialised Unit)

The assurances of science are back-up by the absolution of the priest in "the last Tests" (as a Consultant Anaesthetist termed them). It seems significant that doctors, these modern-day priests (Szasz 1974, Oakley 1981a, Hart 1985), should perform these 'last tests'. These scientific Last Rites, in a technological society. It is here that science and religion link hands to encircle the suppliant; they appear in concert, not in opposition. Both are permeated with ritual, an order of service and ceremony, not to mention drama:

"It's very important that you realise what's likely to happen because they obviously will grieve as soon as you make the final test. The final test is to see that they will not respond to being disconnected from the ventilator. The response would be to try and take respiratory gasps and breathe. Now you say: 'I will take them off the ventilator and if they do not actually breathe. I do not intend, that fulfils the criteria for brain stem death, I will not connect him back up to it'. That gets you out of the problem of putting him back on and saying: 'Well look I'll have to switch him back off because he's dead'. So, that is effectively the death switch. If I don't put him back on because he's fulfilling the criteria, it's not quite the same thing. It allow them to see you do it, they see it. He's not responding. He's not breathing. . ." (Consultant Anaesthetist)

So end these technological rites of passage. Not reconnecting the patient, may appear less proactive than disconnecting the patient after reconnection. In addition to the desire to spare the relatives the trauma of a further connection and disconnection of the patient to and

from the ventilator, this strategy again appears to project a more passive act (as with the gradual withdrawal process) - confirmatory that the patient is dead rather than actively 'killing' them, as a disconnection following a re-connection may be interpreted.

The regulation of birth and death in legal-rational society has been accompanied by its increasing bureaucratisation:

"It's a lot more paperwork. Everyone is getting a lot more legal orientated. Everything is documented." (Staff Midwife)

All must be recorded for possible retrospective audit. There is a formalisation of practices, an adherence to rules and procedures which aid a regulation of the event, producing, as far as possible a standardized, uniform event; defensible if necessary in a Court of Law. Thus, litigation affects practice at both ends of life. What is an 'acceptable' birth or death to a large extent becomes defined legally and organisationally: it is not left to the individual to decide. Euthanasia, on the one hand, and giving birth without the attendance of a qualified health care professional, on the other, are only the most extreme examples of this more general phenomenon.

In obstetrics electronic monitoring has played a central role in providing a legally admissible record of the fetal heart; although this is not a legal requirement. A similar situation exists in Intensive Care. There is no legal imperative to keep the patient attached to monitors when they are known to be dying or if active support has been withdrawn. In some Units monitors are turned-off or covered (at the discretion of the doctor or senior nurse). This was not the usual

procedure on the Units studied. A Senior Staff Nurse commented:

"The worst time is usually if somebody's dying or they've pulled-out and you've told the relatives nothing else can be done and the heart will just fail. They sit waiting and watching the monitor"

At such times, another Staff Nurse felt like 'a prison warder'

intruding on intense emotional intimacy. She would prefer to:

"Let them spend more time with their relative and don't fuss about 'they've got to be turned now'. I mean, if they're dying, they're dying. Leave them. Shut the curtains. Does it make any difference what the 'observations' are? Why don't you write at the end of it 'patient deteriorated and died peacefully'. That's enough to cover you legally. Does it matter what the blood pressure was at 6 o'clock, 8 o'clock..."

Conclusion

Death must not only be regulated, it must be seen to be regulated.

Similarly birth - Obstetricians equate a controlled birth with a safe birth and an unmanaged birth with a dangerous disregard for the safety of the mother and the child. Nothing must be left to chance. It follows, therefore, that uncertainty, which is a major feature of the medical labour process, must be managed, and medical technology is a major weapon in this ideological battle. It is to this proposition that the next chapter turns.

Chapter 8

CHALLENGE AS OPPORTUNITY: Control and the Manipulation of Uncertainty

Since control is bound-up with the ability to dominate, or at least predict, the course of events, a possible challenge to control is presented by 'uncertainty'. Uncertainty is a quality long-recognised as endemic to medical situations (Parsons 1951, Fox 1957, 1979, Davis 1960, Scheff 1963) and is the subject of this chapter. Davis (1960) argues that not only is uncertainty present in medical situations but that what he termed 'functional uncertainty' is used strategically by doctors in the management of patients and patients' relatives to avoid time-consuming and potentially emotionally distressing encounters; this is essentially 'uncertainty' as an avoidance strategy. In other words, doctors made patients' poor prognoses appear more uncertain than they had by that time become in order to obviate the necessity directly to confront patient and patient-relatives' responses to such unfavourable projections. Following on from this, this chapter suggests that uncertainty may, paradoxically, be proactively pressed into the service of medical control. The argument is that 'uncertainty' may be viewed as a resource in the labour process which the medical profession may manipulate along a continuum of lesser to greater 'uncertainty', according to their control interests. Technology, the operationalization of positivism, is pivotal to this process.

"Projected Instrumental Certainty", where the situation appears more controlled (by technology) in terms of producing a favourable outcome than is demonstrably likely to be the case is argued to typify Intensive Care and 'end-game' Obstetrics (when technology has been brought to bear

on the reproductive self)). Indeed, in Intensive Care, it was the proposition that critically ill patients could benefit from rigorous and sustained technological intervention supporting the cardio vascular system that formed the basis of the creation of the area and (usually) Anaesthetists ownership of it. On the other hand, "Projected Instrumental Uncertainty", where uncertainty is emphasised in the form of open-ended risk, typifies the Obstetric enterprise and establishes maternity cases under the 'ownership' of Obstetricians; technology then becomes a major weapon brought-in by doctors to address this projected open-ended risk. Once technology becomes employed in labour, the projection moves to one of "Projected Instrumental Certainty" - where technology and the medical profession project an image of having everything under control. It is concluded that uncertainty is manipulated towards or away from greater uncertainty to reflect the control interests of the dominant group, that is, doctors.

1) Uncertainty and Control

Few people handle uncertainty well and so seek ways to reduce it or, if that is not possible, cope with it (Malinowski 1948, originally 1926). Diverse coping mechanisms may evolve over time to manage 'uncertainty', such as magical or religious rituals (Felson and Gmelch, 1979) - or medico-legal rituals, as I suggest around the 'enactment' of brain death criteria in chapter 7 or more generally around the impulse to produce the 'standardized' birth or death. Alternatively, there may be a strategy of rigorously gathering scientific evidence about the likely consequence of possible actions (Janis and Mann, 1977): this is salient to electronic monitoring, although in this context, it may take place

in advance of action (treatment), 'in real time' or retrospective to treatment. I am further arguing that technology itself is used by doctors to 'cope' with uncertainty, i.e. manage uncertainty and, indeed further, to manipulate 'uncertainty'.

The importance of uncertainty in treatment and disease to the relationship between doctor and patient was first identified by Parsons (1951). Doctors must develop strategies to cope with uncertainty (Fox 1957, 1979, Scheff 1963), while certainty in the area of diagnosis need not imply certainty in therapy (Robinson, 1973). Often the problem of uncertainty obscures both diagnosis and prognosis and presents a problem in communicating the unknown and problematic to the patient and their relatives in a solution-demanding culture (Davis, 1960). 'Uncertainty' may result from: incomplete or imperfect mastery of available knowledge, limitations of current medical knowledge or a combination of both (Fox 1957, 1979). Fox argues that doctors are socialised over time into coping with uncertainty, while factors like clinical experience add to their reassurance. Stemming from Fox's first point, it is noteworthy, that since obstetrics is a Consultant-led rather than Consultant-based *Specialism*, Labour Wards in Britain will be served by Junior Doctors and, for example, newly rotated Senior House Officer's are likely to experience a greater degree of uncertainty. Davis (1960), however, in his longitudinal study of the understandings and expectations of the relatives of paralytic poliomyelitis sufferers, identified uncertainty not simply as a problem for the doctor but an opportunity to use uncertainty strategically in the management of patients and their relatives. Davis seeks to distinguish between 'real' uncertainty as a

clinical and scientific phenomenon and the uses to which 'real or pretended' uncertainty is applied. He found that 'functional uncertainty' served the managerial ends of doctors and other health care professionals in their interactions with patients and their families: reducing time expenditure, avoiding the effort of full and frank discussion and the 'unmanageable' reactions this was feared to provoke. In this case, the exaggerated unpredictability that families continued to believe attended their children's cases, denied them the facility to make rational decisions within a realistic framework. 'Functional uncertainty' was not achieved by lying but by omitting information and the use of jargon in an obscurantist manner. 'Functional uncertainty' was used in order to avoid confronting onerous emotional situations that might generate grief or resentment on the part of the patient or their relatives; doctors justified this approach as allowing the patient/relatives to 'discover' gradually and for themselves the full-extent of the malaise (Davis 1960).

I would argue further that 'uncertainty' appears as a resource which is manipulated by doctors in order to gain 'ownership' and compliance within given situations. It is manipulated on a continuum towards or away from greater uncertainty: this exploitation of the 'unknown' representing either 'projected instrumental uncertainty' (which typifies the justification of the Obstetric enterprise) or 'projected instrumental certainty' (which typifies ITU and 'end-game' Obstetrics). This is a proactive process (not merely reactive and defensive as described by Davis 1960), involving active prospecting, intimately connected in these two areas with a colonisation of an area of interest,

wherein the role of technology is central to the negotiation of 'uncertainty'; as well as being a more general control resource within the labour process. Medicine is a positivist science and technology is the operationalisation of positivism, structured by social relations. Positivism describes the world in physical terms which leads to a reification of processes and persons/patients. Reification, turning that which is addressed into an object, is complemented by turning the solution into a commodity.

11) Intensive Care - projected instrumental certainty

The establishment of a science is said to rely on describing and categorising within the field of study. Foucault (1971, 1973, 1977) sees medicalisation as an aspect of the rationalization of society through the domination of scientific categories. In this way the medical model takes phenomena and redefines and reorganises them in terms of a particular expert-framework which gives that expert group access, domination and ownership within the situation; a mobilization of power towards the exercise of control. Prior to the development of ventilator technology, ITU's did not exist in Britain and anaesthetists in promoting the development of this technology incorporated this into a power-base i.e. the Intensive Therapy Unit (prior to this Anaesthetists had no hospital beds or Ward area under their control). ITU at its present level of development has succeeded in identifying disease patterns but is left with the problem of: "not knowing at this stage of medical knowledge how best to treat them." (Consultant Anaesthetist) This leads to the problem of establishing a greater certainty of probable outcome for the individual patient, since ITU involves scarce

and highly expensive resources (which given the current political climate of financial audit, doctors are likely to be increasingly called upon to justify). Although ITU's have achieved major improvements in survival chances for some conditions previously considered life threatening, evidence is less conclusive on the benefits and costs of treatment for the complex illnesses from which the majority of ITU patients suffer (Kings Fund Report, 1989). At the same time, there are concerns about the ill effects which may arise from ITU procedures in terms of patient dignity, privacy, autonomy and the fact that they may produce more harm than benefit (Kings Fund Report, 1989).

This dilemma is exacerbated by the fact that all medical science may be seen to some extent as experimentation, again emphasising the uncertainty of the situation:

"All treatment is research. . . you can't be sure of the response. . . you can't be 100% sure about anything. . . You treat somebody and then you view the response and that's an experiment." (Consultant Anaesthetist)

Given that some treatments are more easily demonstrable as beneficial than others, there are large numbers of treatments and interventions whose beneficial effects and/or long-term safety have never been scientifically validated (Enkin and Chalmers, 1982). The Specialised Unit, in particular, is likely to treat patients who have undergone techniques which are highly innovative. However, if we take the case of 'pioneer surgery':

". . . they're perfecting it as they go along. . ." (Staff Nurse, Specialised Unit)

"They're experimenting on them. I'd never have 'pioneer surgery', that's how it's made me." (Senior Sister, Specialised Unit)

Within this context 'pioneer surgery' merely constitutes one end of a continuum of uncertainty surrounding treatment, rather than representing any major disjuncture in terms of guaranteed beneficial outcome. Uncertainty is, therefore, endemic to the medical situation, merely occurring in a particularly acute form, given the critical nature of the patients in Intensive Care. This must be managed in some way if the patient or their relatives are not to lose 'faith' and the doctor is not to lose 'face'.

Uncertainty, then, is the antithesis of inevitability: inevitability means there can only be one possible outcome and this is usually not the case in ITU. In essence the problem emerges as:

"I'm not sure we know which patients to treat. I'm not sure we know when to quit." (Consultant Anaesthetist),

When to go in with all technology blazing and when to pull-out?

Theoretical uncertainty makes such doctors reluctant to accept the inevitability of particular outcomes. A considerable debate is, therefore, possible over who is, and who is not, appropriate for admission to Intensive Care. As we saw earlier, in practice this will take place against a political economy backdrop with social 'scenery' which may be moved on and off the stage; this will include the 'scientific' quantification of social values in, for example, attempting to calculate 'Quallies' - 'Quality of Life Years' of possible survivors.

Apache II (Acute Physiological and Chronic Health Evaluation, see Wagner, et al, 1986) is a scoring system involving a positivistic calculation of the degree of derangement from the physiological norm.

This is already used in some Units as one of the measures determining who will be taken into Intensive care and/or the degree of likely nursing-dependancy. Some doctors have used Apache categorisation to attempt to predict survival in groups of patients with particular diseases. Others now wish to extend this to predict outcome in individual cases. This is a strategy of 'projected instrumental certainty', a working definition of who is successfully treatable based on statistical probability. In fact, it is never possible to move with any certainty from a statistical probability of something happening to predicting accurately its occurrence in an individual case. Over and above this, such a strategy still relies on the formulation of a policy of inclusion/exclusion, in that, it is still necessary to decide where to draw the line in terms of which patients to treat even using such an assessment.

Not only is there a degree of uncertainty surrounding survival but there may be uncertainty around the degree of lasting impairment that the patient has suffered, in the first instance, for example, the degree of brain damage was often difficult to establish with any certainty. For example, Anspach (1987) describes the difficulties involved in making 'life and death' decisions in Neonatal Intensive Care, given the 'uncertainty' of prognosis. Noting different epistemologies amongst doctors (technical/scientific) and nurses (affective/interactional), she is critical of:

"A culture which allows only certain types of knowledge to be used as the criteria of 'certainty' which may impel physicians to continue supporting an infant life long after this may be appropriate." (Anspach, 1987, p. 229)

In general, even when a prognosis becomes more certain, it may be uncertain whether or not the patient would wish to survive given, for example, quadraplegia (paralysis from the neck-down). Relatives occasionally interpreted as evasive or uncaring the fact that doctors were reluctant to commit themselves to long-term improvement prognostications even though this was likely to reflect the doctors' own real uncertainty within the situation.

Given the medical 'conjuring trick orientation' (Hart 1985), science and technology in ITU may be seen to act as generating 'projected instrumental certainty' and thereby masking the degree of uncertainty present within the situation. This is achieved in a number of ways. Intensive Care technology overall tends to be imbued by patients, their relatives (and the general public) with ideological notions of (miraculous) 'cure' (even when it is merely supportive of vital functions). The popular media play a central role in this process (see Karpf, 1988). This is especially the case with ventilator technology, since many patient's relatives do not appreciate (at least at some stage in the proceedings) that it is actually possible to die on a ventilator. Massive interventions of drugs technology keep the patient sedated, thus they appear to be in a quiet, controlled state. Sedation emerged as intimately connected with patient control (see chapter 7). Controlling the patient was associated with appearing to control the situation, that is, if the patient did not appear to be in pain or out of control, then the situation appeared more under control; less uncertain. Indeed sometimes it was necessary to either heavily sedate or paralyse the patient in order to "regain control over the situation" (Consultant

Anaesthetist, General Unit). Other aspects of the drugs cocktail massively and invisibly support such elements as the patient's cardiac and renal function, resulting in the visible display of what may be near normal physiological readings on the electronic monitor:

"A patient can die on an ITU with relatively normal physiological values" (Consultant Anaesthetist, Specialised Unit)

The illusion, topped up with 'wishful thinking' on the part of patients' relatives is near complete. In practice brain death is the most extreme example of things being not what they physiologically seem because they are masked by technology: the patient is pink, breathing and appears to be alive but, it transpires that the patient is certifiable as dead:

". . . it has to be stated to them (relatives) that the patient is, in fact, dead and that the heart-rate and the blood pressure mean nothing." (Staff Nurse, Specialised Unit)

". . . they may well be 'dead as a door nail' but if the ventilator is still plugged in and switched on, their chest is still going up and down, that's all the family consider - 'they're breathing'." (Staff Nurse, Specialised Unit)

". . . because they watch the monitor and they see the heartbeat, they say 'how can they be dead, they've got a heart beat?' (Staff Nurse, General Unit)

This is not to deny that ITU saves the lives of people who would otherwise die but it is to assert that this outcome is, in fact, far from certain in the individual case and that technology may serve to mask this fact from patients' relatives. This results in a 'projected instrumental certainty' which works towards the interests of doctors, since if one cannot be seen to be exercising control within a situation, one may lose credibility and, eventually, 'ownership' within the labour process. This makes technology mystifying not only in its inaccessibility to the inexperienced (emphasising the control it, therefore,

gives to the expert) but in its ability to prevent the disclosure of the extent to which we live in an uncertain, unpredictable world. Popper (1961) challenged the notion of certainty, emphasising that we could never be dealing with more than a 'probability' that something would happen and more recently 'Chaos Theory' (Gleick, 1987) has recognised: "Where chaos begins, classical science stops. . . . 'chaos' is a science of process rather than state, of becoming rather than being. (Gleick, 1987, pp.3-5). Chaos theory is, therefore, dynamic. It deals in randomness and complexity. It questions determinism and sees order and chaos as existing simultaneously within complex processes. Developed in meteorology, where for example, weather systems obeyed mathematical rules but never repeated themselves, containing 'instability' at every point: ". . . it is well known that a chain of events can have a point of crisis that could magnify small changes. But chaos meant that such points were everywhere. They were pervasive. . ." (Gleick, 1987, p.23). Thus, Tritton (1986, p.37) wrote that the unexpected possibilities extended to: "physiological and psychiatric medicine, economic forecasting, and perhaps the evolution of society". As with pain relief in both ITU and labour, 'off the peg' solutions may mask rather than reveal the processes with which we must ultimately find more complex, flexible and human ways to engage.

'Projected instrumental certainty' may be reinforced by other policy measures within Intensive Care which promote uniformity, enhancing notions of predictability, as a defence against possible adverse criticism (or, worse still, litigation) on the part of patients' relatives, for example, 'standardized' birth and death (or the

'withdrawal of support'), as discussed in the previous chapter. Additionally, for example, in the General Unit there was a move towards the implementation of 'standardized terminology' in order to try and eliminate the lack of uniformity in communication from staff to relatives. This bureacratization involved all staff treating the patient agreeing a 'term for the day', for example, 'critically ill but stable' to describe the patient's condition. This would presumably serve to reinforce the notion amongst patients' relatives that something about the patient's condition could be encapsulated with certainty and objectivity and distilled into a standardized phrase. Added to which, in this context, withdrawal of active support is presented as "a hard, objective decision" (Anaesthetic Registrar) and the tests for 'brain stem death': "very hard guidelines" (Anaesthetic Consultant), "very firm criteria" (Anesthetic Registrar). Positivistic methodology (with its 'model of certainty') and technology which represents applied positivism, are central to this process.

The contention that 'projected instrumental certainty' is in operation overall within the Intensive Care manifestation of acute medicine, does not preclude the use of 'functional uncertainty' (Davies 1960) in certain specific situations, for example when individual doctors are unwilling to deal with the consequences of telling a patient's relatives that death is about to occur. What is being argued is that 'uncertainty' is a resource which is manipulated by the medical profession in order to gain an initial professional stake in the situation (they may manipulate it towards greater 'uncertainty', as initially in Obstetrics, or away from extensive 'uncertainty', as in

Intensive Care). Thus, 'uncertainty' is further managed within the developing labour process in order to enhance medical control within the situation and, for example, in Obstetrics once technology is applied 'projected instrumental certainty' comes to the fore. So that, in Intensive Care, while ITU doctors and nurses will rarely, if ever, tell the patient's relatives that the patient will certainly survive and, in general tend, where the patient is particularly unstable, to paint a 'black picture' to the relatives, making any improvement 'a bonus': in contrast, the image that is presented on a sensory level is one of 'projected instrumental certainty' - that all is under control.

iii) Obstetrics - 'Projected Instrumental Uncertainty'

The admission and acknowledgement by doctors of 'uncertainty' within a situation might be felt to be inevitably a source of weakness, underlining their infallibility. In Obstetrics, however, this proposition has been turned on its head and 'uncertainty' becomes a strength from the doctor's point of view: we cannot know for certain who will be overtaken by 'potential pathology', so that you must comply with our instructions and advice in order to minimise the possibility of disaster (see, Tew, 1977 1990, Oakley 1980). Technologies, instruments, drugs and treatment regimes represent, therefore, an attempt not only to control the birthing woman but an attempt to manage uncertainty of the birth process itself.

If accurate prediction of morbidity and mortality in childbirth were possible in the individual case, the strategy of 'projected instrumental uncertainty' could not be pursued. Uncertainty is, in a sense, open-

ended risk. The degree of risk as it is applied to the individual Obstetric case is really an expression of a statistical probability that a particular thing will occur, based on an epidemiological analysis of women with similar characteristics. However, although there are four times as many women allocated to the low-risk category as the high-risk, the two groups lose the same number of babies in the perinatal period. Obstetrics, therefore, formulates the management of all pregnant women in terms of the 'worst case scenario'. The exercise becomes one of damage limitation, an attempt to forestall disaster. In this way it is clear that 'risk' appears in Obstetrics to be 'weighted' more heavily than its theoretical probability of occurring. What has been called the 'maximin approach' to childbirth: "choosing the alternative that makes the best of the worst possible outcome, regardless of the probability that that outcome will occur" (Brody and Thompson, 1981, p.977) is only possible because of 'projected instrumental uncertainty'.

Uncertainty around childbirth is both 'real' and exaggerated. It is impossible to forecast accurately the development and eventual outcome of any pregnancy. Since doctors have to manage uncertainty for themselves, as well as for their patients, this will be compensated for by clinical experience (Fox, 1957) but also often by the indiscriminate use of technology; whereby they can claim to be 'doing something' and be seen to be using the latest devices (this is also a 'good fit' with the role of technology in regulating 'work' and its use in the regulation and control of subordinates). Many aspects of birth remain a mystery to medicine. It cannot be predicted accurately when or how or even if (given miscarriage and Caesarian section) a woman will go into labour:

". . . because no-one knows what the situation will be like at the time of labour. . ." (Consultant Obstetrician)

The subtle inter-relationship of different elements of the birth process are not understood. The time of delivery cannot be accurately predicted (except for elective Caesarian section). The nature of many congenital diseases remains uncertain. Cerebral palsy, for example, was long thought to be a birth injury resulting from skull compression during labour, whereas recent research suggests that it is caused by an as yet unknown intra uterine event. Again, given the experimental nature of medicine, the effect of certain therapies or interventions cannot be predicted accurately in the individual case:

"We can't necessarily say what the outcome will be of a particular course of action. . ." (Consultant Obstetrician)

At the same time, 'projected instrumental uncertainty' around potential pathology exaggerates the generality of risk and overplays the ability of the Obstetric profession to deal with unpredictable disaster when it does occur (for example, many babies still die in utero well into pregnancy without doctors being able to either predict or prevent such occurrences despite regular Antenatal Clinic attendance by the mother or, indeed, necessarily be able to explain them retrospectively).

Furthermore, iatrogenic aspects of technology are under-played, as are the possibilities of viable alternatives, while questions of scientific validation are glossed-over (see chapters 5 and 6). Given that the degree of uncertainty is constructed as open-ended, the potential for precautions aimed at averting disaster become equally infinite. This is the Obstetricians' justification for the routine use of technology which is seen as the profession's best ally in achieving routinisation, standardization and control within the birth process. With the

application of technology, we move to a 'model of certainty' posited by a positivistic methodology operationalised in technology, as a remedy for the "uncertainty" of childbirth.

'Uncertainty' is also the 'bottom-line' of the argument against home-deliveries, some women may be defined as 'high-risk' but all are defined as at risk:

". . . there is no way you can tell ahead of time which mother will not run into problems." (Consultant Obstetrician)

Thus constructed, the onus falls on the Obstetrician 'to do something' to control the situation and make it 'more certain'. Thus, to appear to do nothing may be seen by the patient (or the Obstetrician's peers) as a non-decision, non-treatment, a sin of omission. Such that:

"Sometimes the most difficult thing is to do nothing" (Obstetric Registrar).

In medicine generally, Scheff (1963) argues, judging an ill-person well is seen as more to be avoided than judging a well-person ill, within this model, observation and diagnosis is seen as neutral and innocuous, and unnecessary surgery may be viewed as 'healthy conservatism':

". . . physicians and the public typically overvalue medical treatment relative to non-treatment as a course of action in the face of uncertainty, and that this over-valuation results in the creation as well as prevention of impairment." (Scheff, 1963, p.253)

At the same time, Scheff (1963) has noted that medical decision-making in circumstances of uncertainty is not vastly different in its basic logic from legal or statistical decision-making. He maintains that doctors' adaptive strategies in the face of uncertainty will frequently be influenced by contingency pressures (fears of litigation would be an aspect of this, as would, political and economic

considerations). The main response to this situation, Scheff argues, will be either over-investigation or a probability strategy (one may speculate that G.P. budget holders may find it contingent on them to apply the second strategy, if they do not already do so). In Obstetrics, 'risk-scoring' and categorisation of the pregnant woman is associated with the latter (probability strategy), whilst the subjection of the whole population of labouring women to similar treatment regimes based on Obstetric policy is related to the former (over-treatment). Economic and political considerations over 'through-put' are examples of contingent pressures on treatment-regimes in Intensive Care (see chapter 6).

Medical sociology has long recognised uncertainty as a central problem for the chronic and terminally ill (Glaser and Strauss 1968, Conrad 1987, Mishel 1984, Molleman, et al 1984). However, for many pregnant women, especially first-time mothers, uncertainty and fear of the 'unknown' were a source of considerable stress. First-time mothers wanted to know what labour 'felt' like and were fearful of the pain they expected to experience. Both midwives and obstetricians were reluctant to attempt to describe what birth 'felt' like (discussed more fully in chapter 9), so that, it appeared uncertain as to how, or even if, the birth process could be described and midwives and obstetricians (and often birthing women themselves both before and after the birth) regularly claimed that it was impossible to describe labour; although many tried (usually giving a mechanical description of the various 'stages' - which I as a woman who has given birth twice found difficult to relate to in experiential terms - see Appendix X for an 'exceptional'

account). Perceived difficulties of description amongst health care professionals were associated with: the variability in the physical aspects of individual labours; how these would be perceived by individual women; the fact that some midwives and most of the Obstetricians (all but one Consultant Obstetrician at the Obstetric Hospital were male) had never given birth; finding words of adequate intensity to describe the experience. In one sense, I might as well have asked Intensive Care staff what it was like to die.

Conclusion

Pregnant women were well aware of the 'uncertainty' with which the birth process was viewed by health care professionals and the majority had no alternative view to that of the biomedical model with which to organise and make-sense of this open-ended experience. The women were not the 'experts' in the biomedical model and so in this sense they did not expect to be in control of their birth experience. They expected to submit themselves to the hospital regime, they did not, in a sense, expect to be in control and the medical stress on 'uncertainty' served to reinforce the notion that such a submission was necessary. However, uncertainty does not necessarily imply the worst possible outcome is about to occur, it merely means we do not yet know what the exact details of the outcome will be (there is inherently no necessary threat, eliciting pessimism). Around birth 'projected instrumental uncertainty', however, appears to generate anxiety (amongst birthing women), for example:

"I mean, I am worried, not knowing what's going to happen. . . I just

want to get it over with." (Antenatal Interview)

and greater likelihood of compliance with mechanisms (such as technology) which the dominant group (doctors) argue will help to control the outcome of pregnancy and labour, but which may equally be seen as controlling the women themselves. Part of this process involves the use of the baby in opposition to the mother to bring her into line if she does not comply with 'medical advice'.

Why does 'uncertainty' in childbirth lead Obstetricians to demand that women submit themselves to rigid standardized routines and yet, at the same time, the argument of 'uncertainty' is used to implore women to be more flexible over how they give birth? The answer seems to lie in power and control, since the woman is invariably cajoled to be flexible towards more intervention and not towards less. This is a further extension of what Marcuse (1964) has termed 'repressive tolerance' from the field of production to that of reproduction, whereby scientific-technical rationality and manipulation are welded together into new forms of social control within a society whose dominant interests (capitalism, patriarchy and racism) demand repression; the 'system' on one level delivering the 'goods' (the 'need' for which has first been created), buying-off discontent and repulsing all alternatives with the hegemony of the bio-medical model: it is to a more detailed exploration of this that the next chapter proceeds.

CHAPTER 9

MEDICALIZATION, TECHNICAL RATIONALITY AND THE COMMODIFICATION OF CARE, CURE, COPING AND ABSOLUTION

"This society turns everything it touches into a potential source of progress and of exploitation, of drudgery and satisfaction, and freedom and of oppression." (Marcuse, 1964, p. 78)

This chapter starts from the proposition, discussed earlier (see chapter 5) that life has become increasingly medicalized (Zola 1972, Illich 1976) and examines the perspectives of maternity patients and ITU ex-patient relatives in this light. It explores the predominance of the biomedical model and the way in which a medico-technological mystique has developed, whereby not only doctors but technology have come to be seen by the lay-public as possessing miraculous curative powers. The role of 'celebratory reporting' (Karpf, 1988) in this process is noted. The commodification of care, cure, coping and absolution in capitalist, patriarchal society is considered, resulting in technical rationality becoming the only rational response, de-politicised as scientific fact (Marcuse, 1964).

1) The Medicalization of Life-experience

The 'technologizing' of birth and critical illness/death has been intimately connected with the increasing 'medicalization' of experience. 'Medicalization' emphasises the medical enterprise as not merely 'scientific' but social (Zola 1972, Illich 1976). Medicalization leads to social iatrogenesis; promoting dependency and lowering levels of tolerance for discomfort and pain, de-skilling the population and delegitimizing the possibilities for self-care (Illich, 1976).

The white-heat of technological child birth

"Birth and death tie mankind with the unknown
in ways that other status passages do not."
(Devries, 1981, p.1075)

In Western industrial society, by the time the pregnant woman goes into labour she will already have undergone a period of antenatal care involving various tests, techniques and equipment that will have initiated her further into a biomedical and technological approach to birth. She will, therefore, be 'softened up' for what lies ahead in the Delivery Room. This may be juxtaposed against antenatal interviews with pregnant women, which indicated a considerable degree of fear and ignorance surrounding giving birth. This was thrown into particular relief during one afternoon's interviewing, in the convergence of comments between a 43 year old, highly educated, professional, upper middle class woman and a young working class, unemployed, Irish girl of 18, both pregnant for the first time. Given their very different social characteristics, this seemed significant. I was reminded of conversations I had with my own friends when we were newly pregnant and realising that we were similarly ignorant about our bodies and how they would react in pregnancy and childbirth.

Interviewees cited the onset of labour as a particular area where responses might be confused in the light of lack of knowledge, for example:

"And I had no warning at all. . . And I said 'Oh, my waters have gone'. And it was hilarious. I'm 36 nearly. . . we dashed to the Mothercare book, looking up what to do when your waters break. . . and then I said 'I've had a show' and he said 'No it's not'. . . So we looked in the book again. . ." (Postnatal Interview)

Another woman, admitted to an Antenatal Ward in early labour in the middle of the night, felt she was coping badly in comparison with the other women in the ward who she assumed were also in labour. They were not and it is difficult to see how she could make this mistake if she knew very much about labouring women:

"I thought, 'I'm the only one moaning with these contractions' and I was grabbing the blankets and blowing into them, trying to hush myself. . . And I thought (astonished voice) 'And they're just lying there'. And the most I heard, one woman just took a sigh or two. And I thought 'she's coping well'. And it made me feel all the worse. And I thought 'Oh, I'm probably over-reacting'." (Postnatal Interview)

The majority of women knew little of their own mother's experiences of giving birth; despite this being part of their own personal history (and perhaps psychology). Accounts that were given often concentrated on extraneous facts about what their mother was doing when she went into labour, how their father reacted, some comment made about them when first-born. A few, all working class, knew absolutely nothing about their own birth. One would not necessarily expect medical details, in that their mothers would probably have been given very little medical information themselves, but one might perhaps expect a greater inter-generational exchange about how they experienced birth. A sexual connotation appears inescapable. The artist Judy Chicago in undertaking 'The Birth Project', a series of art works exploring the experience of birth discovered:

". . . that the birth process, so central to human existence, is virtually a 'taboo' area for open human expression. Little attests to or explains or symbolizes or honors or renders this primary experience. . ." (Chicago, 1985, p.19)

Given the sexual connotation and medicalization, it seems almost more acceptable to say one had a 'bad' birth. One is then often given

'permission' to rehearse the (usually) medical details, just like any other account of a medical operation. But a 'good' birth leads to a more confused response. Usually the immediate reaction is either that the labour must have been quick and easy (and is, therefore, being evaluated positively in terms of these qualities) or disbelief tends to be elicited that anyone could enjoy labour except perversely. For example, one interviewee (a 20 year old, working class woman having her second child) referring to her first labour commented, "I enjoyed it". Embarrassment and social sanction was immediately registered by her partner who was present: "She's a weirdo", he said. At this point she became defensive and said, "I am weird like that". To which I responded that in that case I must be too, since I had very much enjoyed the second time I gave birth. Is one allowed to 'enjoy' a 'medical' event? Is one allowed to 'enjoy' an experience bound-up with the notion of 'pain' and involving the reproductive organs? Feelings about birth, like those about death are seldom publically unpackaged and, in this sense, they are both taboo subjects (see Feifel, 1963).

It seemed fairly straightforward to ask midwives and obstetricians how they would describe birth to a woman who has never had a baby. Both groups are, after all, intimately connected with reproduction. The revealing response of one Consultant Obstetrician was to issue a disclaimer: "I'm not sure that I have ever been asked to do that or that I would begin to try". Eventually, he added: "I think it's such an individual experience", this in apparent contradiction with his earlier comparison of childbirth to "having a tooth out", when addressing pain relief. Clearly both midwives and obstetricians felt happier describing

childbirth in terms of anatomical mechanics with the proviso that variations could occur (with exceptions, see Appendix IX). They were not description I could particularly relate to as someone who has experienced two labours.

Such aspects as those described above add to the uncertainty surrounding birth. Uncertainty and fear of the 'unknown' were, in fact, a source of some considerable stress in the lives of pregnant women. They were well aware of the 'uncertainty' and 'risk' with which pregnancy was imbued by health care professionals and the majority had no alternative model of childbirth to that of the biomedical model with which to organise and make-sense of this 'open-ended' experience (see concluding chapter)*:

"You just don't know what to expect". (Antenatal Interview)

"I really don't know what to expect. I really don't. I haven't got a clue. . . but I'm not kidding myself. I don't beleive it's going to be really pleasant and 'pop goes the weasel'." (Antenatal Interview)

First-time mothers were uncertain what to expect of labour and others did not know how their current pregnancy and labour would progress.

This was not just a matter of the birth process but the nature of hospital policy and how this would be brought to bear on the former. In a sense, the women did not expect to be in control and the hospital regime, together with the stress on the 'uncertainty' of the situation,

* Currer, 1986, has noted that women's experience and image of childbearing varies between different ethnic groups - in acknowledgement of this complexity my sample excluded women who were not white British, since to include the expectations and attitudes of ethnic minority women would have constituted a separate study outside the scope of this particular work.

served to reinforce this. This allowed, in the majority of cases, for a considerable technological hegemony to apply, while it is clear that some women specifically saw 'high-tech' care as 'modern' and, therefore, felt it to be necessarily of superior quality (see Michaelson, 1988, who found that working class women tended to equate high-technology care with quality care and Nelson, 1983, who found that working class women wanted a more medically managed, passive, interventionist birth). Middle class women were more inclined to say they wanted to keep technological intervention to the minimum, although I do not feel this can be seen as indicating opposition to the biomedical model of birth as such. All expected to have some form of technological intervention, usually at least electronic fetal monitoring and/or some form of chemical pain relief as part of their birth experience. In relation to electronic fetal monitoring, for example, three women were convinced that this type of monitoring had saved the life of a previous baby during labour (there was no recognition that fetal distress could possibly have been detected by other means, such as the use of a pinard stethoscope), while some interviewees who were uncertain about how they wanted to be monitored also seemed to feel continuous electronic fetal monitoring nevertheless represented the safest option. This implies that the medical profession has in many cases won the ideological battle in persuading women that continuous electronic fetal monitoring is the safest routine option, despite the lack of firm confirmatory evidence. It also suggests a more general socialisation into the biomedical model and its artefacts.

Birth can be an empowering experience for a woman, a realisation of primal creative powers (Odent, 1984) but, many women interviewed antenatally viewed it with fatalism, a very disempowering emotion:

"It's just something I've got to go through" (Antenatal Interview)

"I know I can't get out of it now (giving birth)" (Antenatal Interview)

"I'm just hoping this one's quick, so I can go back to sleep" (Antenatal Interview)

"I just want to get it over with". (Antenatal Interview)

Many women wanted birth 'to be over with'; they wanted it to be quick and they wanted it to be in the past; for the majority it was a means to an end: a wanted baby, or the near-inevitable consequence of conception: an unwanted baby. The majority moved towards childbirth with very little apparent trust in nature or themselves, expecting intervention and (male) technology to be a 'normal' part of their labour, such that:

". . . trust in nature has been replaced by trust in technology, as tests and machines and instruments become the necessary paraphernalia of birth." (Oakley, 1981a, p.15)

Women were fearful, the majority extremely so, about the degree of pain they were likely to experience in labour. How they were going to cope with this pain was something which exercised them greatly; this typically led to the response:

"I want as little pain as possible. . ." (Antenatal Interview)

Only very occasionally women re-defined the pain of childbirth, for example:

"I'm really looking forward to it now (giving birth), pain and all" (Antenatal Interview)

"I enjoyed it actually last time with her (daughter). . . Enjoyed it. All of it, yes, all of it. I enjoyed having the baby. I enjoyed the pain, everything . . ." (Antenatal Interview)

Often it seemed women expressed the desire, antenatally not to have an

epidural, not because they wanted to feel themselves giving birth or because they associated it with a higher incidence of forceps delivery but because they feared the pain of the epidural procedure itself (a needle into the epidural space surrounding the spinal column, leaving a catheter in place to pass an anaesthetic drug into this area). A few women wanted as 'natural' or 'normal' a birth as possible, what they meant by this was, however, highly problematic, for example: "As normal as possible. I want an epidural again" (Antenatal Interview). Within this context 'normal' seemed to imply a vaginal delivery; in this sense it is being used as British obstetrics would define such a delivery. But it indicates that epidurals (like Caesarian Sections, see Mariskind 1980) has come to be seen as a 'normal' aspect of childbirth.

"What do you want to experience from the birth?" appeared, in the conventional sense, a badly formed question since many women seemed to be completely non-plussed by it; in other words the question did not make sense to them. This is revealing in itself. It seemed the majority did not look for a positive experience from the birth or feel that they had much choice in terms of input. It can be derived from their answers that the vast majority, regardless of social class, wanted it to be easy, quick and with as little pain as possible. Therefore, when I asked them to tell me what they hoped to experience from the birth the exchange usually culminated in their telling me what type of chemical pain relief they hoped to use. Only 3 of the 20 wanted to try to labour without chemical pain relief (in the event none did - although four of the women had only a minimal amount of gas and air at the end of the 'first stage'). The confidence to cope without chemical pain relief

was not promoted by the majority of health care professionals. For example, there was a considerable emphasis on Pain Relief Lectures in the hospital - describing Pethedine, Gas and Air and epidurals (the latter at great length) and the issue of pain relief was one of the first to be broached when the woman entered the Delivery Room, often in such a way that an expectation of chemical pain relief was built into the enquiry, e.g. "What pain relief were you thinking of having?"

By contrast with their antenatal conceptualisation of the experience of labour as a description of a type of chemical pain relief (technology), retrospectively, a quarter of the women were extremely positive about their birth experience, another quarter were positive overall (with some aspect they were particularly positive about). Women in both these groups saw childbirth retrospectively as: 'an indescribable experience', 'a unique experience', 'it's like nothing I've encountered before really' (see Appendix XI 'Birth Stories' for fuller abstracts from birth accounts, both positive and negative). They used words such as 'thrill', 'excitement' and 'amazement', although many said it had also been 'very, very painful'. The remaining women, approximately half the whole group, while valuing the eventual outcome (the baby) expressed varying degrees of disappointment to horror about what had transpired during labour and how they experienced childbirth. 'Surprise' permeates the accounts of the women who positively evaluated their labours, shock is more evident in the remainder. A feeling came through many of the interviews with first-time mothers that the women felt themselves to have been initiated into an area of shared knowledge and experience from which they had previously been excluded, for example:

"I know what it's like now, I really know. . . It's a nice feeling, knowing." (Postnatal Interview)

The first group of women were the subject of less intervention and gave birth generally without epidural anaesthesia and usually without instrumental delivery. One might feel they were 'lucky' to have had straightforward labours but one would then have to explain why informal scanning of Labour Ward records suggests that the degree of intervention correlates positively with the attendance of particular midwives.*

ITU the making of a miracle

". . . Intensive Care is but the culmination of a public worship organised around a medical priesthood struggling against death." (Illich, 1976, pp.87-114)

In Intensive Care the expert-technological world-view is 'writ-large'.

Illich talks of "the medicalization of the miracle" (1976, p.123),

whereby:

"The patient is strapped down and controlled like a spaceman and then displayed on television. These heroic performances serve as a rain-dance for millions, a liturgy in which realistic hopes for autonomous life are transmuted into the delusion that doctors will deliver health from outer space".

It was apparent from talking to ex-ITU patient relatives in the wake of the experience that the majority still extolled the virtue of high-technology care, whether or not this had resulted in the eventual

*This appears confirmatory of the fact that some midwives regularly seek to 'negotiate' the obstetric guidelines towards less technological intervention.

survival of the patient (this with notable exceptions, five of thirty interviewed, wondered along the lines: 'was it all worth it?').

Many commentators (Szasz 1974, Ehrenreich 1978, Oakley 1981, Hart 1985) have pointed to the role of doctors as modern-day priests and magicians. Such that, the model of 'certainty' presented by positivism is underpinned with the power derived from the mythical status of medicine. This allows doctors the moral certainty needed to shore-up the practical 'uncertainty' under which they practice. However, not only the doctor is cast in the role of miracle worker, medical technology is often viewed as possessing mythical powers of detection and healing; indeed many respondents appeared to assume the supreme efficacy of technology as an appropriate response to 'mend' the body. For example:

"If you've got to go into Intensive Care to have a job done, you know, a rush job like. . . Personally, I don't think they should have left it so long. . . I think they should have gone in and got the job done. . . It could have been if they'd done the job at the start it wouldn't have come to this." (Relative, General Unit)

Similarly:

". . . so to me, it was just another job they were doing with all that machinery." (Relative, Specialised Unit)

This image of the body as a machine, promoted and reinforced by medical science itself, provides a good-fit between purveyor and client of capitalist and patriarchal medical services. This non-affective, technical approach to care, coping and 'curing' is, therefore, complementary to a mechanical view of the body. Both are deeply rooted in a cognitively male dualistic world-view (see Harding 1981, Keller 1985, Bordo 1986).

Relatives in ITU often referred to the ventilator as a 'life-support machine', often appearing to believe that death while attached to such a machine was impossible:

"... the relatives tend to think the ventilator is keeping them alive, whereas it's only working the lungs, it's not working the heart and the brain. . ." (Staff Nurse, General Unit)

"When I went, God, I was watching all these machines going round. That's keeping him alive! Short of his own brain, that's keeping him alive." (Relative, General Unit)

In fact, the ventilator supports only the lung-function, if the heart stops, the patient will die. However:

"While the patient is on the ventilator, this builds-up their hopes (relatives) because many of them think that these are miracle machines. . ." (Staff Nurse, General Unit)

"I really felt confident when I saw the way they were handling him and I saw all the equipment there, I felt 'he'll get through'." (Relative, General Unit)

Given the perception that machines and doctors have power over life and death, this might be accompanied by the fear that a decision will be made to 'switch-off' the patient:

"Many a night I expected them to ring-up and say they were switching the life support machine off." (Relative, General Unit)

"I thought, one night they're going to ring-up and say 'come up to the hospital, we've got to switch it off'. I fully expected that." (Relative, General Unit)

"... relatives and the general public seem to think you can just turn-off patients. . ." (Staff Nurse, General Unit)

This might also result in patients' relatives sometimes asking ITU Consultants to: 'switch everything off doctor' because they felt the patient had 'suffered enough'. In practice, as we have seen, the decision to withdraw active support was usually a lengthy process involving several senior medical staff and was generally implemented

as a gradual withdrawal process not a 'switching off' (which applied only when 'brain death' criteria had been fulfilled).

Intensive Care technology, such as monitors, ventilators and drugs supporting the various bodily functions may be seen as themselves curative:

". . . some of them (relatives) think the equipment makes them better. It's very difficult for them to understand that it only supports them." (Senior Sister, General Unit)

This is associated with a masking of uncertainty, whereby the situation is projected as 'under control', appearing less uncertain than it may remain. For example, sometimes the drugs given to maintain the patient's heart rate and blood pressure at a 'reasonable' level represent a massive level of support and may give a false picture of the patient's possibility of long-term survival. Not only relatives but clinicians who do not have regular contact with ITU may be misled:

". . . many clinicians will come onto an ITU and have a look at a patient's blood pressure and see that it's normal. And look at the heart rate and see that's normal. And look at the gas exchange and see it's good. And they might see the patient's passing urine and, it's happened many times, they say, you know, 'Oh, the patient's doing quite well'. What they don't see is that the patient's actually dying. And you can still die with relatively normal physiological values because you're receiving so much support" (Consultant Anaesthetist, Specialised Unit)

What is crucial is the balance between physiological function and the level of therapeutic support. Normal physiology is when the patient is doing it all themselves:

". . . if to maintain normal values, you're having to work like a slave with all kinds of support going, then the chances are that the patient is very, very sick". (Consultant Anaesthetist, Specialised Unit)

The degree to which the patient's physiological functioning is being artificially enhanced may, therefore, not be apparent to the lay person,

who may cherish the belief, at least at some level, that medical science has now wrested control over nature to the extent that it may be expected that nothing will 'go wrong'; death may be averted almost indefinitely. That is to say, medical technology has taken on a kudos which both derives from and reinforces the mystical esteem in which doctors are held:

"... people expect so much, expect people to have things done and expect them to live. You know, people don't expect their relatives to die of heart surgery any more. It happens (two 'routine' by-pass patients had died on the Unit the previous week). It's like my husband's a G.P., you know, people 'phone up and don't expect their Granny of 93 to die. . ." (Senior Staff Nurse, Specialised Unit)

"... but we've now led people to expect that we can do so well and do so much that the disappointment they feel when they learn that they're going to die or their relative will die, is very hard for them to take because they expect that we will be able to put things right."
(Consultant Obstetrician who sub-specialises in Gynaecological Oncology)

In the case of 'pioneer surgery', the patients' relatives were, however, well-aware of the uncertainty of outcome and they were well-versed in the techniques to be employed, while patients were closely vetted for suitability before the start of treatment. Pioneer surgery appeared to be accepted by relatives as high-risk but a desperate last resort to restore the patient to health. However, in practice, for many other patients (at the time of interview) the eventual outcome remained uncertain (having survived ITU) and some were still terminally ill.

Birth and death in a technological environment

Options available in both Obstetrics and ITU derive from the same paradigm (Kuhn, 1970), the biomedical model:

"People are not responsible for their own health, their own illness, their own births and death: doctors are saviours, miracle-workers, mechanics, culture heroes." (Oakley 1981a, p.15)

The lay-person tends to typically over-value medical treatment to non-treatment in the face of uncertainty and similarly over-values a positive result (Scheff 1963).

Fundamentally, in terms of critical illness and death being enacted in Intensive Care or giving birth in a highly technological hospital, it seemed that this level of technology did not represent a major disjuncture from the rest of the individual's life. Their workplaces and/or domestic lives were patterned with automation. Rather than one being able to analyse birth and death as a biological event, a cultural event and now a technological event, it seemed that technology was very much part of their culture, a taken for granted aspect of people's everyday lives. An extreme example may be found in one respondent whose interview took place surrounded by: satellite television equipment, video, compact disc player, tape deck, a disk player which he said deciphered videos, and all packed into the tiny front room of a terraced house. In the light of this, the technological setting in which birth or death took place did not represent a major disjuncture, in technological terms from the rest of their lives. In other words, high technology has become an integral part of popular culture, since it now so fundamentally permeates people's everyday lives. Thus:

"Today, domination perpetuates and extends itself not only through technology but as technology, and the latter provides the great legitimization of the expanding political power which absorbs all spheres of culture." (Marcuse, 1964, p. 158)

Indeed, why would high technology be absent from the individual's health care experience, given its prevalence elsewhere? In Obstetrics, we have noted that what is considered within the range of 'normal' birth has

changed over time and now includes procedures such as Caesarian Section (Mariskind, 1980) and, I would argue, epidurals; high technology also appears to have been assimilated into the 'normal' range of possible accompaniments surrounding death.

The expert-technological worldview is put forward as only rational means of addressing the 'potential pathology'/'projected instrumental uncertainty' of pregnancy as presently constructed. Furthermore, medical science puts itself forward as a suitable antidote to the chaotic unreliability of women's bodies, given the 'female' connection to chaotic nature (see Merchant 1980, Harding and Hintikka 1983, Easlea 1983, Lloyd 1984, Keller 1985, Smart 1991). The message is clear: men can better the procreative efforts of women by the application of science and technology (see, for example, Easlea 1981 on the relationship between science and patriarchy), while in ITU a mortal struggle is waged with technology against the prospect of death.

Thus, Gouldner (1976, p.260) has commented:

"Scientific and technological power serve, in part as the secularised symbol of the unlimited potency and cosmic unification once provided by religion. Science and technology assume a panacea-like character: given only time, the fantasy is that all problems will capitulate to it. Man is really Promethean and there is presumably nothing he cannot accomplish."

One major purveyor of medical mythology is the media. This is especially the case for ITU which is valued for its dramatic content and miracle, against-the-odds cures: such phenomena were described by some ex-ITU patient relatives as 'they'd (the staff) never seen anything like it (patient's recovery)', 'even the nurses were suprised (at patient

recovering)'. There seemed to be a desire to believe in 'the exceptional' case and the miraculous nature of cure. One man whose wife had been a patient on the General Unit had, at the time, asked the doctor whether there was any drug in the world, however expensive, which could cure her condition (he said his nephew was a millionaire and could have made such a purchase). The doctor told him there was no such drug. Several respondents seemed to feel that 'cure' was associated with the doctor suddenly alighting on the 'right drug' for the patient. Karpf (1988, p.161) writes of the existence of a "modern myth that personal tragedy and the uncertainties of human existence can be resolved by technology." Thus, the media may glamourise and exaggerate the benefits of some techniques (Karpf terms this "celebratory reporting"), while ignoring the 'downside' of the procedure*. Media reporting regularly depicts dramatic break-throughs in health care, epoch making drug therapies, 'against the odds' patient recoveries. Birth and death in popular film is often quick, dramatic but uncomplicated; even if, simultaneously, it may be depicted as agony. Currently in 'soap operas' and such like, the patient is never shown languishing on a hospital ward but rather, they are always 'fighting for their lives' in Intensive Care whose dramatic content appears irresistible to all concerned. Media images and messages about birth and death are all the more salient in a society such as our own, where birth and death are only rarely viewed at first hand and where a 'silence' pertains around their detailed unpackaging as in some way unwholesome.

*On occasion, however, the 'quality' media does mount notable critiques, for example, concerning 'brain death' ('Panorama', October 1980) and induction of labour (for example, 'Horizon', January 1975).

11) The commodification of care, cure, coping and absolution

"A comfortable, smooth, reasonable, democratic unfreedom prevails in advanced industrial civilizations, a token of technical progress. . . In this universe, technology also provides the great rationalization of the unfreedom of man and demonstrates the 'technical' impossibility of being autonomous, of determining one's own life. For this unfreedom appears neither as irrational nor as political, but rather as submission to the technical apparatus which enlarges the comforts of life and increases the productivity of labour" (Marcuse, 1964, p.1)

The commodification of care, 'cure', coping and absolution , results from an alliance between capitalism, patriarchy and positivism. In positivism there is the reification of process and people, whereby they become objectified. This approach, rooted in Cartesian dualism, is cognitively male (see Harding 1981, Keller 1985, Bordo 1986). Once 'objectified' people and their 'illnesses' may be met with an article of treatment. This is a 'good fit' with capitalism which reduces all possible 'solutions' to ones that may be supplied by goods and services rooted in the cash nexus (commodities); thereby, generating profit. An alternative 'subjectivist' approach would require taking into account the patient's world of experience. The patient as 'subject' would become a central element concerned with doing rather than 'buying'. But care, cure, and coping are, rather, commodified and an 'off the shelf' package-solution is embraced. This will be illustrated by the example of the use of chemical pain relief in labour:

The birth of my first child was a very technological affair and, although it made me realise that under such technological circumstances one could still fall in love with one's child at the moment of birth, it

was a very different experience to the second time I gave birth. This labour was long too (not by comparison with the first - but 27 hours from the onset of regular contractions). I laboured instinctually with little pain relief and virtually no technological intervention.

Labour is generally defined as involving 'pain'. This definition makes it susceptible to medical intervention in a way that its conceptualisation as 'work' would not (Rothman, 1982). The location of birth (and death) in hospital has emphasised their painful aspects and obscured their potentially orgasmic qualities (see Gordon 1970, Wertz and Wertz 1977). Odent (1984) believes that much pain in childbirth is caused by health care professionals restricting the ability of women to adopt different positions during labour. Pain relief has been central to the exercise of control over birthing women by obstetricians (see, for example, Grantley Dick-Read 1972, Arms 1975, Arney 1982). However, given 'pain', how is it to be coped with? In principle there are a number of options: one can bear pain, endure pain, resist pain, seek to extinguish pain, transcend pain, transform pain or embrace pain and 'go with the flow' (this list is not exhaustive). It seems to me within the biomedical model of the Obstetric Hospital, pain is reified and coping is commodified. This may be seen as part of a more general process, described by Marcuse (1964), whereby technology, bound-up as it is with positivism, empiricism and the interests of the powerful in society, pervades every area of life, while its rationale is de-politicised and it becomes seen as the only way forward.

The view expressed repeatedly within the Obstetric Hospital was that women had 'different pain thresholds', for example:

"I think the important thing to describe is that every mother has a different pain threshold, and if she's never had a baby, we don't know, what her tolerance for labour is because their first question is always the fear of pain. . . you can explain to women that they do have different pain thresholds and that we do have a range of techniques that are readily available for them to choose from which will accommodate the particular kind of pain threshold they have." (Consultant Obstetrician)

Many women also felt they had a certain 'pain threshold' and many who perceived labour to be difficult and distressing felt that their pain threshold must be low (even where the degree of intervention appeared traumatic by any standard). The notion of each woman having a particular pain threshold appears ultimately rather dubious. From my first labour I might imagine my pain threshold to be low (epidural for pain relief) and from the second that it is high (gas and air at the end of first stage). Doubt is also cast on this proposition by reportedly certain midwives at the Obstetric Hospital repeatedly attending births which have little technological intervention and result in normal deliveries. Although this information is not monitored formally, the Senior Midwife who managed the entire Delivery Suite said that she scanned results informally and could in principle tell me which midwives were repeatedly in practice associated with a low level of intervention. This suggests that it is not invariably something 'objective' about the mothers that is the prime determinate of extensive intervention.

The first intervention in labour is frequently around pain relief. This often leads to other interventions, for example, a continuous trace must be made to monitor the effect of giving Pethedine and, as we have seen, epidurals require subsequent interventions, for example:

"She needs an epidural, therefore she needs a drip, she needs internal monitoring. Then she needs an internal catheter tube. . ." (Sister Midwife).

conversely,

". . . she's still in control, in that she's not having to lose control by using pain relief." (Sister Midwife)

If we take the proposition that women:

". . . do have different pain thresholds and that we do have a range of techniques that are readily available for them to choose from which will accommodate the particular kind of pain threshold they have." (Consultant Obstetrician),

we quickly arrive at the situation where staff typically comment:

"I really don't mind whether they have nothing or they have an epidural, which are the two extremes." (Consultant Obstetrician)
or

"It depends what people want, they have the information and they make the choice. Who are we to say what's right or wrong?" (Sister Midwife)

There are a number of points at issue here. Given the level of policy directives within this hospital (for example, that all women should have their membranes ruptured at 4 centimeters dilation), it appears significant that the decision regarding pain relief is left to the woman, especially given the possible iatrogenic effects of, for example, epidurals, discussed earlier. In the case of pain relief the baby is rarely used against the woman as it is in other areas where she may seek to exercise choice. It is also questionable whether all women do "have the information" on which one can truly say they are exercising 'informed consent'. "Who are we to say what's right or wrong?" appears incongruous when juxtaposed against the amount of constraints and pressure routinely exerted on women to conform to certain obstetric standards. It is also questionable how much choice is being exercised given the narrowness of the product range (for as such it is being

presented) on offer; that is to say, choices stem almost exclusively from one paradigm (see Kuhn, 1970): the biomedical model. However, from within this, the message is clear: pick the package that suits you.

Stoeckle (1988, p.81) argues that we are now being offered:

". . . forms of packaged care for relief, cure, prevention and rehabilitation rather than services between persons."

He goes on to suggest that medicine has now become concerned with:

". . . marketing technologies and medical commodities to targeted consumers." (Stoeckle, 1988, p.85)

In the case of pain relief targeting the woman's 'pain threshold'.

Now, this approach may be a good-fit with the current notion of the 'health consumer' propagated in the current political climate and it may appear responsive to what may be termed consumer pressure groups operating in this area, for example, the National Child Birth Trust, but this would depend on a number of factors, for example, whether the service was truly responsive to demands, whether the demands were 'informed' demands and the substance, range and quality of what was being offered.

The National Childbirth Trust has called for anaesthetists to be on call 24 hours a day in as many hospitals as possible to give epidurals (Kitzinger, 1987). This accessibility of epidural relief, however, is a different question to the criteria determining availability in individual cases, for example, whether an epidural is available on-demand or whether there should be specific indication for use, one midwife was adamant:

"I wouldn't tell them (labouring women) they were going to be fully backed-up with epidurals and everything else because I think for a very

long time in this hospital, they were given the impression that you can't get through labour without an epidural, and that was partly because there was an Anaesthetist available to give an epidural at all times. They used to actively encourage women to have epidurals. . . what we didn't used to tell them, was that they would need to be immobile, on a bed with a monitor attached, so it's very easy to sell pain relief I think." (Senior Sister Midwife)

It is arguable that pain and chemical pain relief in labour should be seen within a broader context than the emphasis on the negativity of pain and the commodification of its control. It is a feature of selling techniques generally that one de-emphasises or does not mention the down-side of the product.

The commodification of pain relief was also evident in the comments of women concerning the prospect of their birth experience (as already described many of them couched this in terms of what pain relief they expected to have). Several felt they wanted an epidural (11 of the 20 eventually laboured with epidural anaesthesia) and cited the fact that their friends or relatives had selected this option by way of explanation. There was almost an element of 'fashion' involved. Four women had already decided to have an epidural as soon as they arrived at the hospital in labour. One 18 year old commented antenatally:

"She (her sister) had an epidural. She had forceps and she was cut and stitches and that. Most people who I talk to about going into labour have had an epidural. No one I know yet has gone without it."

For women who decide beforehand that they want an epidural, this represents the first and not the last resort, for example, one woman asked her health visitor to show her "how to breathe, in case I can't have one (an epidural)" (Antenatal Interview). It was clear that many of the women did not see different types of pain relief on a continuum in terms of an escalation of technology being used, for example, they

might say they would have "nothing or an epidural". Pain relief systems were also not necessarily viewed as associated with a particular philosophy of birth and so, women might appear to fluctuate wildly in terms of the birth-philosophies they might be thought to be tapping into, for example, one woman said:

"Epidural? That's when you don't feel anything in the bottom half isn't it? I think that would be a good idea but I was told there's a great big needle they stick up your back. Up until then I was all for it and then I thought 'Oh God!'. . . But I'd love to try this water thing, have the baby in the water but that's not really around at the moment is it? That appeals to me, but otherwise I think it's got to be the epidural."
(Antenatal Interview)

Similarly, a Senior Sister Midwife was surprised to be asked by a woman 'booked' for a 'water birth' (assuming labour progressed 'normally'), if she would be able to have an epidural under water. Additionally, it sometimes appears unclear why a certain sort of pain relief was opted for in the first place, for example:

". . . but I said 'I'll go for the gas and air, see what that's all about'. . . they gave me some gas and air and I said 'Oh I think I'll have an epidural if I've got to hang about'. . . I wasn't in the mood for just twiggling my fingers. I just wanted to get on with it. . ."
(Postnatal Interview)

It almost appears that this woman felt the epidural would in some sense expedite labour; research suggests the reverse is likely to be the case (Rosen, 1977).

Although Transcutaneous Nerve Stimulation (T.E.N.S.) was available in the obstetric hospital, it was used by relatively few women and many doctors and midwives appeared dismissive or silent on this method of pain relief. One Sister Midwife commented revealingly:

"When it first arrived we weren't sure where it would fit in."

This is arguably associated with the fact that it does not fit easily

into the biomedical model of care on offer, since it originally derives from the practice of Chinese acupuncture. Webster (1979, 1981) has shown how orthodox medical practice in the United States and Europe used a variety of occupational strategies to contain Chinese acupuncture pain-killing, controlling it by legal (and Parliamentary) means and, in practice translated it into a discourse acceptable to medical science.

If pain is seen as the overwhelming defining characteristic of labour and its negative connotation is presented as being well met from one of the pain relief product range, then it is just a matter of promoting product awareness and letting the consumer make their choice. Given the prevalent fear of pain amongst pregnant women and the knowledge that an epidural is (when it works effectively) the only method (while the patient remains conscious) which ensures a pain-free labour, this may be thought the most up-to-date, 'state of the art' way to handle labour pains; just as Pethedine was cast in this role in the 1940's and '50's. If this is the case, some women may expect to 'consume' an epidural as part of the 'birth package', for example:

"There are some situations where an epidural is a really good idea and very necessary and there are others where you know that if she hadn't had an epidural she'd have been able to push that baby out. . . Sometimes you get an inkling and you say 'I think you'll cope with the gas and air' and she'll say 'I want an epidural'. It's like they've missed out on something if they haven't had it. I know that's partly because we're pushing them (epidurals). . . If you really need it, have it, but if you don't it's a shame to miss the experience." (Sister Midwife)

From a similar standpoint, a Senior Sister Midwife likened many women's views about pain relief to: "the idea of utility, like the turn of the Century, we started making little gadgets to make life easier. . ."

From this point of view, one progresses from 'why should I wash clothes

by hand when I can use a washing machine?', 'why should I have to suffer pain at the dentists if I can have a painless filling?' (the comparison of pain at the Dentist with pain in childbirth was made by certain obstetricians and several pregnant women). Clearly if the 'pain' of labour is seen as comparable to that of an unanaesthetised tooth extraction, this denies the social-psychological and sensual-sexual aspects of childbirth. Complementary to the absence of the 'down-side' of pain relief in such accounts is the silence surrounding the 'up-side' of giving birth. The problem becomes: 'why should I have a painful experience if I can have a pain-free one?':

"A lot of ladies want a pain-free labour". (Staff Midwife)

"I couldn't see the point really in having any pain. . . ." (Postnatal Interview)

This is significant, in that it indicates the desire to extinguish the 'pain' of labour, not merely to get it under control. Antenatally, it seemed that many women were more concerned with what they did not want to feel (severe pain or, in some cases, any pain) than what they did want to feel or experience in labour. Some women believed that by having an epidural they could avoid all pain. This was to underestimate the possibility that the technique might prove less than 100% effective, the pain that might be involved in the procedure, the degree of intervention that often accompanied and succeeded the epidural and the greater post-delivery pain that some women experienced after this technique (see Crawford 1972, Beazley, et al, 1978). As one Senior Sister Midwife put it:

". . . whether they feel better by the time they have finished up having syntocinon to augment it, and they've been in labour a longer time and they've been in second stage for three hours I don't know. . ."

One particular woman provides an extreme illustration of the desire to feel no pain. She was labouring with an epidural (I attended the labour). Even before the baby was born she was asking the midwife about the possibility of post-delivery pain. Like many women in the study she enquired whether I had children and what the births were like. I replied briefly that the first had been under epidural and had resulted in a forceps delivery and the second was a 'normal' delivery with gas and air. I was taken aback when she countered: "Which one did you prefer?", given her desire (and those of many women) not to experience the 'pain' of childbirth, I should not have been.

The commodification of pain relief in labour represents a relief from pain by means of an external agency located in technology, and is often associated with further interventions based on technology following in its wake. The autonomous and creative power of coping from one's own inner resources is undermined and the birth experience which carries an empowering potential is subverted into 'off the peg' panaceas. Odent (1984) emphasises the need for the labouring woman to contact instinctual primitive urges deep within herself in order to birth-well. Odent stresses the desirability for women not to be the subject of routine interventions, painkilling drugs and synthetic hormones (artificial oxytocin) since these undermine the achievement of a complex hormonal equilibrium which facilitates a spontaneous delivery:

"Neurohormones with morphinelike functions, these 'endogenous opiates', act as natural painkillers, not only protecting against pain but also suppressing anxiety and inducing a general feeling of well-being. . . But in order for the body's natural powers to come into play, they must be left alone." (Odent, 1984, p.14)

This is the very opposite of an external technological-fix.

The woman, socialised into the biomedical model, subject to the vagaries of obstetric 'fashion'* and, in many cases, the willing victim of a narrow range of 'birth-packages', may fail to even conceive of an alternative and so conflict or dissonance may not occur in the first place. Marcuse, writing of the 'false needs' that underpin the productive system, states:

"Most of the prevailing needs to relax, to have fun, to behave and consume in accordance with the advertisements, to love and hate what others love and hate, belong to a category of false needs. Such needs have a societal content and function which are determined by external powers over which the individual has no control; the development and satisfaction of these needs is heteronomous. No matter how much such needs may have become the individuals's own, reproduced and fortified by the conditions of his existence; no matter how much he identifies himself with them and finds himself in their satisfaction, they continue to be what they were from the beginning - products of a society whose dominant interests demands repression. . . In the last analysis, the question of what are true and false needs must be answered by the individuals themselves, but only in the last analysis; that is, if and when they are free to give their own answer. As long as they are kept incapable of being autonomous, as long as they are indoctrinated and manipulated (down to their very instincts) [his parenthesis] their answer cannot be taken as their own." (Marcuse, 1964, pp. 5-6)

A picture emerges of domination related in wider society to hegemony (Gramsci 1971, Mann 1973) and within childbirth, this may be related to the hegemonic medicalisation of the birth experience. As Lukes (1974, p.23) maintains:

". . . 'A' may exercise power over 'B' by getting him to do what he does not want to do, but he also exercises power over him by influencing, shaping or determining his very wants."

Thus, Lukes (1974, p.24) asks:

". . . is it not the supreme and most insidious exercise of power to

*The House of Commons Health Committee Report on Midwifery Services (February, 1992), states that obstetrics has (like other branches of medicine) been swept by "fashions in which treatments have been introduced because they are available and not because they are of proven value."

prevent people to whatever degree from having grievances by shaping their perceptions, cognitions and preferences. . . To assume the absence of grievance equals genuine consensus is simply to rule out the possibility of false or manipulated consensus by definitional fiat."

Inhibiting change is the fact that "all liberation depends on the consciousness of servitude" (Marcuse, 1964, p.7) and is "hampered by the predominance of needs and satisfactions which, to a great extent, have become the individual's own." Marcuse calls the gratification of these 'false' needs "repressive satisfaction". Since pain relief in labour has the latent function of social control of the birthing woman its 'repressive tolerance' becomes manifest:

"Under the rule of a repressive whole, liberty can be made into a powerful instrument of domination." (Marcuse, 1964, p.7)

and the paradox is revealed that one may pay a high price for technologically induced freedom from pain in labour.

How far 'choice' is exercised in relation to pain relief in childbirth, therefore, becomes questionable. The woman 'chooses' within a narrow medicalized framework where high-technology predominates and low-technology alternatives or radical/counter-cultural alternatives, such as hypnotherapy, yoga, acupuncture or, indeed, coping from one's own inner resources (since this too is a radical alternative within this context) are either de-emphasised or non-existent. 'Freedom of choice' becomes a matter of some mystification:

"... And the spontaneous reproduction of superimposed needs by the individual does not establish autonomy; it only testifies to the efficacy of the controls." (Marcuse, 1964, p.8)

Conclusion

To put forward the case for instinctual birthing is not to maintain that technological intervention, including artificial pain relief (including epidurals) is not at times indispensable and may be life-saving; it is to suggest that its routine and extensive use may not be in the interests of the population it is purporting to serve. Such that, to quote an obstetrician on this subject:

"Epidural block has a special contribution to the management of labour in a select number of cases. It should, however, be regarded as an exceptional measure and treated with due respect." (O'Driscoll, 1980)

The biomedical approach may be seen to be ultimately antagonistic to notions such as instinctive birthing given the biomedical model's positivist and technological core; in positivism:

"The metaphysical dimension, formerly a genuine field of rational thought, becomes irrational and unscientific. . . non-operational ideas, aspirations, memories and images have become expendable, irrational, confusing or meaningless." (Marcuse, 1964, pp.173-187).

At the same time, the biomedical model, in view of its empiricism (and in this case Obstetric vested interest in the ownership of the labour process) will argue that labours are 'normal' only in retrospect and that given the uncertainty that this projects (and the lack of predictive capability in the individual case) all must be subject of the same regime. Within this 'projected instrumental uncertainty', women who do not wish to accept what is routinely on offer may easily be seen as weird, recalcitrant and/or neurotic and irrational. In this sense, Marcuse points-out, society alters the relation between the rational and the irrational. On the one hand liberty is extended, since technology may help in labours where there is specific indication for

its use, while domination is intensified, given that the nature of the technology itself is repressive, as are the social relations between those who professionally 'own' the technology and those who labour with it. For example, writers such as Ehrenreich (1978) have pointed out that the medical system throws working class people, women and blacks into an intimate dependency relationship with a white male, usually of the upper or upper middle classes. This represents a powerful mechanism for producing acquiescence in the overall social structure:

"... both the doctor-patient relationship and the entire structure of medical services are not mere technical relations but social relations which express and reinforce (often in subtle ways) the social relations of the larger society, e.g. class, racial, sexual and age hierarchy, individual isolation and passivity; and dependency on the social order itself in the resolution of both individual and social problems." (Ehrenreich, 1978, p.15)

Integral to all is the issue of control. Control is the mobilization of power. To exercise control over one's own life is empowering and does not sit easy in a society which promotes 'repressive tolerance' where the right to choose is the right to consume, from a pre-ordained, circumscribed list, sanctioned as rational.

In contrast, Odent (1984, p.26) argues:

"On the day of birth, we encourage women in labour to give in to the experience, to lose control, to forget all they have learned - all the cultural images, all the behavioural patterns."

such that the woman in labour is:

"... urged to trust what she feels, to move as she pleases, to take any position she finds spontaneously." (Odent, 1984, p.41)

Odent emphasises that to give birth with satisfaction and without complication it is desirable that the woman achieves an altered state of consciousness not by means of drugs but from her own physiological and

mental processes. Even when labour proves "especially difficult":

"... a woman must use every strength she has to bring her child into the world. Unlike the majority of obstetricians, we trust the woman's own capacities and potential during labour and this trust has been constantly reinforced by our experiences at the clinic." (Odent, 1984, p.98)

This model of birth is empowering to the mother, since Odent is not controlling in that he does not seek to remove the mother from her experience or try to dominate as a practitioner by the implementation of protocols and regimes. Odent links his approach with a humanising and feminising of birth. Birth becomes a personal experience with women in control, primarily as mothers but also as midwives. This view of birth emphasises freedom of expression by the mother and the sensual and sexual aspects of birthing. It represents a different relation to science, to nature, to health and healing and in the relationships between men and women. Herzlich (1973) and Stacey (1986) amongst others, have pointed out that there are two sets of theories dealing with health and illness: those based on the 'objective' examination of physical signs of disease and theories which see health and illness as modes of relationships, of equilibrium and disequilibrium between people and their environment, involving human factors, ecological aspects and social structures. Odent's approach falls into the latter mode.

More generally, commodification in health care is also observable in other trends. There is a commodification of body-parts where, for example, the placenta becomes a saleable item (sold to the cosmetic industry).* A more recent development is the practice of some medical

*Rather than continuing to be valued for its magical and sacred properties as in so-call primitive societies, it becomes a marketable item.

Consultants in the United States of selling the patient a video film of their operation as part of the care-package (reported on the 'Today' programme, Radio 4, 23/7/91). More recently still, a private clinic opened in London where for the payment of £350, 'sperm separation' can be bought, enabling parents to choose (in effect buy) the sex of the baby they conceive (B.B.C. 1 - 1 o'clock news bulletin 8/11/91). This is, in addition to the sale of various body fluids such as blood (in several countries), and breast milk and semen in the United States. More generally, however, the 'solution' to the patient's 'problem' (and pregnancy too is certainly problematised medically) may come to be seen as residing in technology in the shape of a pill or a machine and the more expensive the pill or the machine the better as far as many people are concerned. That is to say, hi-tech and high cost solutions may within capitalist society appear synonymous with high quality care: the latest, the most expensive and, therefore, the best available, which simply does not follow. Many health care professionals may also equate the latest technology with 'good practice', such that the least interventionist of the Obstetric Consultants felt:

"It's very important that any method or intervention is properly evaluated. It's very difficult to do because there are some practitioners at all grades who say: 'I want the best for my patient', which is quite right but your reply to that is 'But there is no evidence that what you are doing is the best for your patient'"

Similarly, as already noted, research findings indicate that many working class women associate high-technology birthing with quality care (Michaelson, 1988, p. 18) because they feel that everything possible is being done; this is a familiar refrain in Intensive Care:

"When I went in there was all these pipes and things. A magnificent lot of machinery on him. And I thought, 'That's it, they can do no more'." (Relative, General Unit)

In such circumstances in Intensive Care, if the patient does not survive, a failure of spirit on the part of the patient may be put forward as an alternative interpretation by relatives or staff to a notion of a failure of science and technology or a criticism of the policy that put the patient there in the first place. It is epigrammatic that a surgeon may feel 'the operation was a success but the patient died', in Intensive Care, it seems the relative may feel 'the technology was a success but the patient died'. Unsuccessful treatment may also be viewed as nevertheless reflecting a social attribution of worth to the patient, for example, s/he received highly expensive treatment although an old person. This is an alternative to viewing the episode as a meddlesome interference in a terminal event at the end of a long life. In ITU, therefore, there is some support for Illich's (1976) contention that people now believe they have the right to be 'professionally killed' having had vast amounts of money expended in the process:

"He (sic.) has now lost his faith in his ability to die, the terminal shape that health can take, and has made the right to be professionally killed into a major issue. . . Death no longer occurs except as the self-fulfilling prophecy of the medical man. . . Society, acting through the medical system decides when and after what indignities and mutilations he (the patient) shall die. The medicalization of society has brought the epoch of natural death to an end." (Illich, 1976, p. 103, pp. 148-150)

The latter may represent, for the patient's relative, a minor cheating of death: even if one does not survive one at least shakes a technological fist and gives death a run for its money. Such that:

". . . Technical death has won its victory over dying. Mechanical death has conquered and destroyed all other deaths." (Illich, 1976, p. 210).

If one cannot prevent death, one can at least regularise and standardize it. At the same time, technology offers not only commodified cure and

coping but the promise of absolution: one is absolved from guilt by the application of technology: 'they tried everything'. This links with the role of doctors as modern-day priests (see Szasz 1974, Oakley 1981, Hart 1985). And even where cure is impossible as in 'brain death', one is absolved from the fear that the patient is 'not really dead' by the application of 'brain death criteria', which may be seen as a technological rite of passage: referred to as 'the Last Tests', echoing the 'Last Rites' of the Catholic Church.

Illich (1976, p.104) has termed this heroic medical "struggle against death" a "phantom production of life expectancy as a commodity". As we have seen, technology may of itself be seen to possess curative powers. Patients may carry notions of the 'right' drug to remedy the situation. More generally, this consumer orientation may imply the possibility of buying or acquiring health or relief from pain like a commodity. Such an orientation typifies a patriarchal capitalist society and can only be reinforced by the fact that the NHS is now the subject of market mechanisms, creating an internal market for health services. As

Gouldner (1976, p.245) has commented:

". . . there is a growing connection between consumerism, productivity, science and technology, many in society tend to associate their increased enjoyment of life - the improved living standard - with technology."

It seems that they may also associate their increased expectations of life-expectancy and a pain free existence with the same range of phenomena.

CHAPTER 10

CONCLUSIONS

This thesis explores the role of medical technology in the structure of medical domination of birth and death, stressing technology's pivotal position at the intersection of control and uncertainty. I have adopted a Marxist-feminist approach rooted in labour process analysis. Central to the analysis has been a consideration of the biomedical model, since along with class, gender and race, this represents a key power relationship within health care delivery.

I have examined the contest for control within the labour process around technology and its use in facilitating the achievement of a standardized birth or death: a birth or death falling within certain parameters. This regulation allows health care professionals retrospective control (if necessary at Law) over the definition of what occurred, thus, more easily defending their practice if challenged. At the same time, such technological procedural regulation allows the opportunity for the dominant group (doctors) to exert control over subordinate groups involved in the process: midwives/nurses, patients/patients' relatives. This procedural regulation of life events is a 'good fit' with a mechanistic view of the body and the world.

Such a mechanistic approach, which leads to a reification of the processes of health and illness, is conducive to a commodification of health care 'solutions'. Solutions become located in external technologies which may be 'bought' off-the-peg. Health becomes something one 'buys' rather than something one actively achieves. From

the patient's point of view, the emphasis is therefore on passivity: the patient as 'object'.

The mechanical view of the body is a positivistic one but paradoxically, the medical labour process is riven with uncertainty (see Parsons 1951, Fox 1957, 1979, Davis 1960, Scheff 1963). Uncertainty, with its overtones of open-ended risk, unpredictability and the unknown (possibly unknowable), could represent a challenge to the doctor's expert authority. However, I have argued that 'uncertainty' is a resource within the health labour process which doctors from their dominant ideological and material position, press into service to promote 'ownership' and compliance within the situation. To these ends, uncertainty is manipulated along a continuum towards or away from greater uncertainty. This represents a development of Davis' (1960) concept of 'functional uncertainty' (see Chapter 8).

I have argued that the tension between methodological positivism and practical uncertainty is managed and manipulated through the promise of control through the application of technology. Thus, technology is used to mask uncertainty, thereby enhancing ideological medical control. Doctors are perceived to have the situation under control. Given the social relations embedded in technology and the social relations that structure its use, this leads to a greater potentiality for superordinate control of both patients/relatives and subordinate work groups, who work with the technology but do not 'own' it or determine its use (although they may negotiate its use in practice where they possess countervailing philosophies, for example, the resistance of some

midwives to routinely artificially rupturing the membranes at 4 centimetres and applying a fetal electrode to the baby's head).

I now propose to look in more detail at the wider conclusions that can be drawn in these key areas of analysis.

The Biomedical Model

ITU treats patients with life-threatening conditions, while obstetricians care largely for well-women experiencing a 'natural' life event. Since the medical profession dominate both areas, the dominant ideology is that of the biomedical model. As we have seen, this involves notions of pathology, positivism, Cartesian dualism and a mechanistic approach to the body, birth and dying. This is a cognitively male approach to methodology and the world (see Harding 1981, Keller 1985, Bordo 1986).

Despite the usually widely divergent health status of ITU and maternity patients, there is some considerable commonality between the two in the extensive use of drug technology and continuous electronic monitoring. This appears related to obstetricians' concern with what Oakley (1980) has termed the avoidance of avoidable death for which they might be held responsible. Obstetrics, therefore, becomes essentially a damage limitation exercise, concerned primarily with preventing death rather than facilitating birth. In pregnancy, obstetricians try to make the body work as a machine (Rothman, 1982); in critical illness they try to repair it on the same basis. In both areas pain is generally seen as the same mechanistic phenomenon: suitably treatable by drug technology.

Rosengren and Devault (1963, p.202) have termed chemical pain relief a "technical, mechanical and personally neutral means" of relieving pain. I now turn to the operation of the biomedical model in relation to childbirth, since this is an area where it has been hotly contested, given the good health that most pregnant women enjoy.

Midwives and nurses, since they are both (to different degrees) subservient to the medical profession, operate within the strictures of this approach - which, as we have seen, they may in practice embrace or seek to socially negotiate to varying extents (for example, in practice reconstructing 'definitions' of fetal distress or ITU nurses appealing to more experiential epistemologies in assessments of whether it is desirable for treatment to continue). Jocelyn Cornwall (1984) has made the point that women's thinking about childbirth has been 'medicalized' for over a century. It is small wonder then that the majority of maternity patients interviewed subscribed to what may basically be described as a biomedical model of birth,* i.e. they expected birth to take place in hospital accompanied by medical intervention. Only three sought to try and labour without pain relief technology and the majority saw continuous electronic monitoring as 'safer' for the baby. As we saw in general this remains scientifically unproven but the women's views indicate that the battle remains won at an ideological level. Overall, the women had no developed alternative image with which to

* All pregnant women in this study were white British. See, for example, Currer (1986) concerning the different images that may be held by ethnic minority women.

combat the medical model of reproduction, although several wanted birth to be as 'normal' as possible (Chapter 7 concerning the problems attached to the notion of 'normal').

However, Graham and Oakley (1981) suggest that mothers and doctors do have a qualitatively different way of looking at the nature, context and management of reproduction - a different 'frame of reference' - Obstetricians apply a pathological and women a natural biological frame of reference. It was apparent that women did view pregnancy and childbirth in a different 'context' to obstetricians in terms of its 'meanings' for their lives, for example, bodily, domestically, socially, and occupationally and so on. Thus, they have a different conception of the ontological implications of childbirth from doctors. However, in terms of the 'nature' and 'management' of birth, women generally appeared uncertain and often anxious. Childbirth remained an area of substantial ignorance (see Chapter 9) and still largely a taboo subject in terms of detailed social unpacking. Although, women varied in the extent to which they hoped to influence the management of labour, the majority did not express themselves opposed to the routine use of medical technology. At an epistemological level, therefore, they did not express views substantially divergent to those of the medical profession and, given this, the doctors were viewed as the 'experts'. As a result, there appeared to be no articulated counter cultural model in operation against the medical model. At the same time, obstetricians generally put forward a more ambiguous view, than simply viewing birth as 'pathological', maintaining simultaneously that birth is a 'natural' process but that nature is "imperfect" and, therefore, that

the level of mortality and morbidity would be far greater left to its own devices than with obstetric vigilance and interventions. Hence, we return to 'pathological potential' (Haire, 1978) and the sub-text that cognitively male science can better the procreative efforts of women's chaotic bodies (see Easlea 1981, Smart 1991). In terms of cognitive dissonance theory (Festinger, 1957): obstetricians recognised birth as 'natural' but this is negated because the relationship between 'nature' and the unproblematic or straightforward is seen as itself negative.

The biomedical model is associated with viewing people as objects. The separation of the 'subject' from 'object' in sociological analysis, medical practice or in other areas of social life, creates false dichotomies which are cognitively male (Bordo, 1986). It is a technical mechanistic analysis which over-values one type of knowledge as 'objective', 'hard' data (see Chapter 3), while systematically undervaluing its perceived antithesis 'subjective' or 'soft' data.

Medical science constructs the patient (a person/subject) as an object (of scientific investigation). This is a distinction which has ethical significance. Viewed through the mechanistic-materialist gaze 'patients' may lose their humanity, personhood. Individuals have a sense of self and others (Mead, 1934). This means that they have a moral sense and are aware of duties to self and others. This raises the issues of choice and conduct. Ledermann (1986) argues for existential medical ethics. These are not 'abstract' ethics but relational to

existence.* They are thus incompatible with a mechanistic, dualistic approach based on internal organic pathological changes:

"In order to develop a medical approach which is existential in its ethical content, it is necessary to give up the objective standpoint of scientism and to re-discover man's (sic.) subjective world". (Ledermann, 1986, p.128)

By contrast, where the person is objectified, suffering and disease reified, the 'solution' itself becomes objectified, or more specifically (within capitalist society) commodified. Such commodification (of coping) has undermined the autonomous power to cope (Illich, 1976) with giving birth or dying; such that we give birth drugged or paralysed, die sedated or paralysed. Perhaps the creativity of birth or the prospect of mortality are too potentially subversive to patriarchal capitalist values to be left unchecked, for example, the experience of procreation could be empowering of women or contemplating mortality might lead to an undermining of the 'American dream' (archetypal capitalist aspirations) or a re-assessment of the work ethic or its often psychologically unrewarding organisation, given the acknowledgement of finite time. At the ideological level this involves obfuscating : "the distinction between rational appearance and irrational reality." (Marcuse, 1964, p.226): in such a way that the 'mad' appears sane and vice versa (see for example, Laing 1967). Such

*This is basically an existential phenomenological approach to consciousness. That is to say, consciousness is not abstract but intentional, i.e. it is consciousness of something or about something and, therefore, best understood as some relation between a subject and object (for a discussion of this see Phillipson and Roche, 1971)

that, commentators such as Easlea (1981) write:

" . . . modern science, despite its breathtaking theoretical, experimental and practical achievements, has been and remains basically irrational in so far as it has always been inextricably entangled in the oppression of groups of people by other people." (Easlea, 1981, p.2)

In context, it may seem entirely rational, and indeed comforting (as ITU ex-patient relatives and some nurses pointed out), to see the ITU patient's condition apparently under control and the patient's distress apparently resolved by sedation, but the patient may still die, often after massive and successive traumatic interventions; and may have much on-going disability to come to terms with if they do survive. Likewise, in Obstetrics, women may look 'comfortable' (and the situation thus controlled) labouring paralysed from the waist down but is this the rational way to 'open up' to give birth, the bearing down of which in second stage has been likened by some to an orgasm? The individual may readily embrace such solutions rather than grapple with the uncertainty and unpredictability of a non-technological way of proceeding. Thus Buber (1970, pp. 85, 79, 126) asserts:

"What has to be given up is. . . that false drive for self-affirmation which impels man to flee from the unreliable, unsolid, unlasting, unpredictable dangerous world of relation into the having of things."

The latter may be seen as turning to 'commodified' solutions.

In the early Marx (1975) capitalism is portrayed as denying and distorting basic human needs and potentials. Distorted through ideology, these will not necessarily be seen as exploitative but may seem natural or inevitable; technologies demanded by 'progress' are part of this. Early Marx considers the relation of nature and self as well as relations with others. He thus writes of "human sensuousness"

and our need to use our senses in human labour and endeavour in order to contribute to our individual and social development. Commenting on the frustration of this impulse Willmott (1990, p. 371) envisages that:

". . . human beings become trapped in a fetishised form of self-consciousness in response to anxiety aroused by the experience of separation from nature. . ."

This may be explored in the context of childbirth:

Capitalist shop floor assembly line production techniques and machinery assume and reinforce the separation and antagonistic relationship between mental and manual labour. The separation of 'the mental' and 'the physical' is not only a feature of capitalist production relations, it is a feature of the biomedical model. Much chemical pain relief in labour, therefore, operates on the basis of mind-body dualism either dislocating the mind from the body (Pethedine) or the body from the mind (epidural anaesthesia). This in effect represents a separation of mental and manual labour. To build into a technical system the power to substitute for the woman's ability to cope in labour (an epidural will also reduce the chances of her delivering the child herself without the use of forceps) is an expropriation of women's creative powers at a fundamental level (see Oakley, 1981a, who associates high-technology birthing with post-natal depression). This is not to imply that in specific cases an epidural may not be desirable. Describing the manufacturing shop floor, Cooley (1976, p.74) comments:

"Thus objectivised labour in the form of fixed capital, emerges in the productive process as a dominating force, opposed to living labour. . . now this life no longer belongs to them (the worker) but to the owner of the object".

Viewed within the context of childbirth, obstetric technology becomes fixed capital and power and ownership devolves to the obstetrician.

Such expropriation may lead to alienation, such that the woman may come to doubt the integrity of her own body to 'know' how to give birth and she may become alienated from the product of her labour: her own child.

As an early advocate of 'natural childbirth', Grantly Dick-Read (1972) spoke of the orgasmic and spiritual nature of birth. By contrast mechanical, empiricist explanations assert that there are no mysteries, that all will eventually succumb to mechanical empirical explanation.* Likewise 'death' becomes a matter of fulfilling a number of physiological criteria. Even Odent (1984) who argues that women must achieve an altered state of consciousness in order to give birth with satisfaction and without complication, speculates that eventually this state will be described neurologically. However, mechanical, empiricist explanations, rather than promoting non-intervention, lend themselves to a dualistic proposition that the key dimensions of birth can be monitored and regulated by machinery; that 'pain' is just the product of a mechanical process and can be stopped chemically.

This is significant, since it involves a denial of self-definition and autonomy in coping with pain. Thus, Illich (1976, p.150) argues:

"... both doctors and their potential clients are retrained to smother pain's intrinsic question mark",

turning pain into a "technical matter" and depriving suffering of its

*See, for example, Stephen Rose (1973), 'The Conscious Brain', who argues that in due course neurobiology will evolve to the extent that scientists will be able to explain the 'mystic experience' in terms of the mechanical explanatory framework.

"inherent personal meaning" (Illich, 1976, p.140). This leads to a:

". . . progressive flattening out of personal, virtuous performance". (Illich, 1976, p.138)

This may be seen in the regulation of birth and death (described in Chapter 7). Rothman (1982, p.39) also comments in relation to the pathological orientation to childbirth: "When someone is sick, there is no blame and no credit". Increasingly it becomes difficult to express ones own values through conduct in the face of pain, death and decline or in giving birth. In relation to death, for example, Fiefel (1963, p.18) maintains that it is not only that "we do not even permit him (sic.) to say goodbye to us" but we often fail:

". . . to assist the person to recreate a sense of significant being for himself, whether it be existential, inspirational or transcendental - to be an individual even through dying."

The human need to discover one's own ways of surviving (or, in some cases, not surviving) is reproduced as an externally regulated performance; in the process the cosmic, mythic, moral and existential become obscured. The precariousness of existence: critical illness, death, pain, childbirth, is regulated and controlled by a model that conceives of these primarily in terms of mechanical dysfunction. Such a medicalization of social life has caused Illich (1976) to argue that a de-skilling of the populace occurs when experts define human experience. At the same time, the impersonal medical mode works against the development of a wider compassion and a personal, tender response to suffering on the part of the wider community: the latter possibility Illich (1976, p.117) terms "compassionate tolerance" and may be compared with "repressive tolerance" which Marcuse (1964) associates with the technical mode. Buber (1970) discusses the relation between 'I' and

'you'. Easlea (1981) makes the point there can be no "responsive reciprocity" and compassion between 'I' and 'it'. There is no empathetic response from the technical mode. Illich feels our inability to cope without resort to medical institutions has to do with the demise of the mythic in society. That society has forgotten its myths and dreams. A technological fix may be seen as the opposite to this; or perhaps, more paradoxically, myths and dreams may be seen to have become attached to technology.

Commodification

"... the devaluation of the human world grows in direct proportion to the increase in value of the world of things".
(Marx, 1975, p. 324)

I have argued that a positivistic, mechanistic approach to the body is dialectically related to a patriarchal capitalist society*. Firstly, because it enables the domination of 'chaotic' nature (Easlea, 1981) which is associated with women (Bordo, 1986). Secondly, it emphasises 'cure' rather than 'care' (Navarro 1976, Hart 1985) and sees cure as something external to the individual which may be 'obtained' - like a commodity - from the medical profession as, for example, pain relief, surgery, drugs or assurances that 'nothing will go wrong' or absolution, that 'everything possible was done', if it does.

Illich (1976) stresses commodification of health care which he

*Navarro (1986) defines the characteristics of capitalist medicine as: biologism, positivism, mechanicism and individualism.

associates with industrialization. His is essentially a technologically deterministic model where society is seen as a technocracy, run by bureaucrats and peopled by 'consumers'. Although I disagree with the ascribed origins and prescribed solutions of Illich's cultural critique of modern medicine, I do feel that many of his substantive criticisms concerning patients' loss of autonomy and control, together with the mystifying and iatrogenic implications of much treatment remain valid. Navarro (1976) extensively criticises Illich for locating the need for consumption in the manipulative practices of bureaucracies (including the medical bureaucracy). Navarro maintains the aetiology of the need for consumption lies in the demand of industrialized capitalist societies that citizens have no control over the productive process but are manipulated into consuming its products:

"... either a pill, a drug, a prescription, a car, or the 'prepackaged moon'". (Navarro, 1976, p.111)

Thus, Navarro argues, "commodity fetishism' derives not from industrialization but is intrinsically linked to a system based on commodity production which generates a demand for products while simultaneously promoting pacification and passivity. Consumption becomes a compensatory attempt to realise satisfaction not fulfilled in the productive process.

Navarro's (1976, 1986) analysis, whilst locating the drive to consumption in the relations of production, does not appear to view health care as an area of production but merely as an area of consumption. This leads him to assert:

"Thus, to understand the sphere of consumption we have to understand the world of production (author's emphasis in both cases). . . (while medical care is later referred to as). . . the non-work-place, in the

world of consumption" (Navarro, 1986, p.113, p.152)

This is presumably because he views health workers as 'unproductive labour'. The problem follows that: health care is not seen as a sphere of production with its own labour process. However, in health care, production and distribution occur simultaneously (Ehrenreich, 1978). Thus, although Navarro (1976, p.115) maintains:

"... technology is not an independent force that fatalistically determines all relations, including social ones but rather the reverse is true, i.e. the social relations (who controls what and how this control takes place) determines the type of organisation chosen and type of technology to be used."

he does not apply this insight to the health labour process. His approach also leads him to see the 'patient' as merely a 'consumer' and nothing else. This undermines the role of the patient in the division of labour (see for example, Freidson 1961, Roth 1963, Hughes 1971, Fagerhaugh and Strauss 1977, Strauss, et al, 1982, Stacey 1984) and precludes examination of their (and their relatives') positive contribution to the health care labour process. His work also omits any notion of the power relations between health workers and users (Carpenter, 1979). Gender is also largely absent. It is not, as Navarro suggests, that dependency is created in the sphere of production and then transported into the 'area of consumption' but that relations of domination and subordination are constructed and reconstructed throughout all patriarchal capitalist labour processes of which health care is one. For precisely this reason, it is appropriate to apply Marcuse's (1964) notion of 'technical rationality' and 'repressive tolerance' (which Marcuse primarily locates in industrial production) to the area of reproduction of health (and human reproduction).

More generally, it is evident from employing a labour process approach that control is not just related to the detailed control of work around labouring in childbirth, being critically ill or dying in a technological environment (as, for example, the work of Barbara Katz Rothman, 1982, on birth) but relates to a more general subordination located in societal relations of class, gender and ethnicity. The production of health care and the regulation of birth and death, therefore, has to do not just with the 'detailed' control of the professionals concerned but wider relations of domination and subordination in society.* Ehrenreich (1978) calls for a synthesis between the 'cultural critique' and the 'political economy critique' of medicine, arguably a labour process account provides that, since it is concerned with 'form' and 'content', and social relations which span the macro and micro level.

The commodification of health 'needs' is likely to increase further with the application of market principles to the NHS (Department of Health White Paper, 1989), whereby we are encouraged to take our 'disease' or health 'problems' to the health 'market place' and, in effect, purchase the best solution we can obtain for ourselves. Such an approach to health care also provides a 'good fit' for capitalism in the guise of

*The distinction between these levels of analysis may be seen, for example, in the work of Annandale (1989) where she argues there is a disjuncture between the ability of obstetricians to control the organisation of their everyday medical work (detailed control - micro level - which she argues remains effective) and their inability to protect their interests as a corporate body (macro level).

the medical technology industry (see Waitzkin, 1990). This is also mirrored by a commodification of body parts. The creation of a market economy of health provision, whereby work practices within the NHS are being exposed to market mechanisms which begin to regulate their conduct within narrow economic criteria (including such regulators as performance indicators) is associated with the major strategic requirement to preserve the wage relation, of reducing the value of the social reproduction of labour power represented by the production of collectively consumed use values (Aglietta, 1979). Aglietta argues that the restructuring of health provision will necessitate major transformations of the labour processes involved, aimed at cutting the cost of the 'social wage' (involving extracting 'surplus labour' from the health workforce, see Carchedi, 1977) and maximising the return on capital investment represented by fixed assets in the health sector. I have argued that the politics of throughput, for example: the issues surrounding the weaning of by-pass patients in the Specialised Unit (see Chapter 6), is part of the intensification of productivity for employees in the NHS, as is the 'extended role' (see Chapter 7) in both Intensive Care and midwifery. It represents the use of a subordinate group (predominantly female) to perform tasks under the 'ownership' and control of an adjacent dominant group (predominantly male), for which they receive no additional remuneration and which must be performed in conjunction with their core role. The 'extended role' also involves a further incorporation into the medical model for both subordinate groups. This allows an extension of medical services at less expense than providing extra doctors would entail. It is an interesting case of 'upskilling' (notwithstanding the political nature of 'skill', see, for

example, Rubery 1980, Pollert 1981) leading to an intensification of work, since intensification has more generally been associated with 'de-skilling' (see Braverman 1974). Paradoxically, despite "up-skilling", a routinisation of work has taken place, in that routine technological procedures have increasingly been adopted around the conduct of birth and death. Intensification of work cheapens health 'commodities' on the internal market being created currently in the NHS.

In contrast an area where staff reductions could be facilitated by technology has so far been eschewed. In principle staff could be 'saved' or staff shortages more easily absorbed if all labouring women were attached to electronic fetal monitors, relayed through a central console staffed by a Senior Midwife. However, this option had been consciously rejected by the Director of Obstetric Services at the hospital in the study in favour of keeping the midwife by the bedside in the Delivery Room (although this was not always achievable in practice). This reflected the philosophy that monitor readings should be seen in the context of the patient as a whole (this may not always be adhered to in practice and is in tension, for example, with the biomedical model and the high status attached to 'hard data'). This corresponds to the conscious philosophy within ITU of retaining a one-to-one bedside nurse and does not indicate any conscious effort to use technology as a cost-cutting device to reduce staffing and thereby intensify work (Child, et al, 1984, Harvey 1984). Nevertheless, monitors were used to alleviate staff shortages on ITU (although not on the Specialised ITU, where beds were closed if they could not be fully staffed for all shifts) and the Labour Ward, covering for the temporarily absent nurse/midwife.

Scientific Ceremonial and Technological icons

"Paradoxically, the more attention is focused on the technical mastery of disease, the larger becomes the symbolic and non technical function performed by medical technology."
(Illich, 1976, p.119)

Hospital 'worship' has been said to be unrelated to hospital 'performance'* (Illich, 1976, p.113), while "entire branches of medicine continue to be financed because they have been invested with non-technical, usually symbolic power" (Illich, 1976, p.119). It was certainly evident that many ITU ex-patient relatives continued to extol the virtues of ITU's, although their relative had either not survived the experience, died shortly afterwards or remained terminally ill.

The Promethean image of scientific and technical power that is projected suggests: that nothing is ultimately unaccomplishable (Gouldner, 1976, p.260). Thus, we have:

". . . the modern myth that personal tragedy and the uncertainties of human existence can be resolved by technology." (Karpf, 1988)

ITU has been termed 'the medicalization of the miracle' (Illich, 1976, p.123). We are, therefore, in the realms of the mythic and symbolic. At the level of perception much technological intervention employed in ITU and Obstetrics (for example, drug technology and electronic monitoring equipment) serves to mask the uncertainty that remains present in the situation. The imagery presented on the symbolic and sensory level is that of 'projected instrumental certainty', a symbol that: all is under technological and medical control. This is part of the 'conjuring trick orientation' (Hart, 1985) but, at a deeper level, it represents medical technology and the doctor as miracle worker.

Medical technology has a kudos which derives from and reinforces the mystical esteem in which doctors are held. Rather than society having abandoned its myths and needing to re-discover them (Illich, 1976), it appears that the mythic has become attached to technology and medical technology in particular.

Here, however, we are not only concerned with the mythic and the symbolic but the heroic. The heroic has always been an element of myth; hence 'the heroes'. The heroic is classically male. Hence, the heroic mortal struggle with 'nature' is a masculine goal and has much to do with the achievement of masculinity (Easlea, 1981). Similarly, Gouldner (1976, p. 260) talks of the "unlimited potency" of scientific and technical power; where "potency" must be seen to have (male) sexual connotations. The heroic is concerned with 'cure'; conversely 'care' may be hypothesized as female. One might argue, therefore, not only for a humanizing of health care and birth but a feminizing of these areas, Odent (1984, for example, calls for a 'feminizing' of birth and Dinnerstein (1977) argues that the suppression of the feminine is at the deepest root of our current cultural troubles). The suppression of the feminine has been associated with the denial of connectedness and empathy. (I see these as existentially female qualities, rooted in women's 'being in the world', rather than being 'essential' qualities of women). The feminist/feminine, brings together subjective and objective ways of knowing the world (see Rose, 1987, p.279). The management of reproduction through history and in most cultures is a female concern (Oakley, 1980) and should be reasserted. I would question, along with Rothman (1982), Odent (1984) and Barbour (1986) whether the presence of

a male partner is necessarily supportive to the woman in labour (see Chapter 7) and share Rothman's concern that this may well replicate the patriarchal power relations of wider society in the delivery room (in the same way generally as do obstetricians). Help should be offered woman-to-woman, as well as on a professional basis:

"... women in labour are assisted not by men, but by other women who have had children themselves. . . . If the friend or sister has had a spontaneous natural birth herself, she will bring her positive knowledge of the experience to the event; if she has never had children, or if she has had only cesarean births, she may well bring fear and anxiety." (Odent, 1984, p. 43)

Lay-midwives in the United States hesitate to take on an apprentice who has not had a baby (Devries, 1985). Some midwives in this study also expressed this view: they saw this as "completing your training"/"at least you know what they've been through". It must certainly afford potentially a special empathy and connectedness.

In contrast to the personalized, empathetic approach, in practice, the individual act of giving birth has been the subject of standardized and routine intervention. But the routine application of mechanical technology may disturb the interconnections of labour by fracturing the ontological experience of the woman giving birth. However, doctors have seen greater regulation and more intervention in birth and death as the best defence against malpractice claims (see Mariskind, 1980). The virtues of non-intervention may not be appreciated by some patients, since to appear to do nothing may be perceived as a non-decision, non-treatment; even as un-caring. Essentially, they may equate intervention with decisiveness, efficiency and modernity. As the Registrar Obstetrician commented after the birth of my second child when

he resisted a last-minute intervention: "Sometimes the most difficult thing is to do nothing". Similarly, obstetrician Peter Dunn (1976) comments:

"We must never forget that it takes more experience, more judgement and courage often to stand back and do nothing." (cited by Inch 1982, p. 35)

The push towards intervention was also evident in Intensive Care: extensive and intense intervention is after all integral to its role.

One Consultant Anaesthetist felt:

"You're talking someone who's about to die and nothing you do will make anything worse. So it takes all the pressure off, paradoxically. If you've got somebody who's about to die, the worst that can happen is that they will die and since they were going to anyway, it might be thought you didn't do anything wrong. In fact, people rally round and say, 'Well, you did your best, thank you doctor, for trying', this kind of thing. In fact, you may have made the most awful balls-up of it."

This could be to confuse action with progress and to ignore iatrogenesis and the psycho-social context of the event. Similarly, in withdrawal of active support, the position to be justified was that of not continuing to use technology or justifying why a patient was not admitted to Intensive Care. In Obstetrics, litigation and dispute tended to centre around why interventions had not been made, technology not used (sometimes there is a dispute about why forceps were used, but often this involves the contention that greater intervention should have occurred, i.e. Caesarian Section). In both areas the pressure on doctors was to act, to intervene. The 'sins of omission' were considered greater, or at least more difficult to defend retrospectively, than the 'sins of commission'. The burden of proof therefore lay with those who wished to practice non or less-intensive intervention. Arguably the opposite should be the case.

As Banta and Thacker (1979) have argued, an assessment of a medical technology should include factors such as; health benefits and risks of the technology, its financial effects and impact on social systems and values. Complementary to this should be a consideration of how social forces and social relations shape technology and its use. Social, political and economic factors are central to the way medical technology is used: in other words, the use of technology is not simply 'medically' or indeed 'technologically' determined. This aids an understanding of why some medical technologies are in regular, routine use, despite a lack of confirmatory evidence of their health benefits and despite their risks. At the same time, control (including the management of uncertainty) by the medical profession as an occupational interest group and as agents of State and male power, underlines the use of technology as presently constructed.

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This thesis grew out of Jonathan's birth and so at the end I return as I began to the image of what birth can be, reproducing this most eloquent plea for facilitating birth rather than being locked into a mortal struggle with the spectre of death. It is a powerful evocation of life

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and freedom on which to end:

"I am overcome. There is nothing to teach her. She pushes for life on her own. I am not to touch her. She shouts at me: "Stay back. I am giving birth. Leave me alone!" She makes herself comfortable, and I must accommodate myself to her position. She moves around. She is creative, inventive, full of life. She looks for what she wants. She is exhausted and yet so vital. As she throws herself upon me, I am covered with her sweat. I am obliged to do as she wishes. But she is beautiful, she is the life that she is about to bring forth. She no longer asks me the time, the sex, the weight. Instead, she simply cries out with pleasure. I leave the room, exhausted, full of her emotions, her joy.

In ten years at Pithiviers, I have been taught: where women are free, we will learn how they give birth best. They will show us. They will trust us. Look at them. Listen closely. . . "

(Odent, 1984, p.113 - extract from an account of birth by Dominique Pourre, a midwife at Pithiviers, France).

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APPENDIX I ITU - CONSULTANTS

1. What is your background in medicine and how did you come to decide on your particular specialism? What is your role within the Unit?
2. What are the major technologies in use in the ITU? What tasks are they able to perform?
3. What is the procedure for obtaining funding for new technology?
4. Who decides local policy around the use of ITU technology? (the Consultant in Charge, the Region, DHSS, who?)
5. How is the various equipment in ITU used? Which staff use the equipment?
6. Would it be fair to say there is a policy of bedside nursing in the Unit? Would it ever be possible for the nurses to sit at a central nursing station if the monitors readings were relayed to the station?
7. What sort of patients are referred to the Unit? Who makes the decision to refer and what sort of criteria are used?
8. When a patient is in the ITU who plans his/her care is it: the Consultant in charge of the ITU, the patient's original Consultant and his/her team or a combination of the two? Who makes the ultimate decision if there is a disagreement between the two concerning the best course of action? Who decides when the patient is fit for discharge from the Unit?
9. How do you decide how deeply to sedate a patient; what factors have to be considered?
10. Do you, as the Consultant, get any notion of the patient-personality (patient as a person/individual - given that the majority of patients are semi- or unconscious but given that nurses do appear to latch on to a patient personality)?
11. What about withdrawal of active support - what and who is involved in the decision-making process?
12. How do you view the role of the ITU nurse? (Specialised Unit: Where did the the initiative for the more active nurse management of the by-pass patients come from?)
13. On what occasions and in what sort of circumstances does the nurse refer to the Consultant in Charge of I.T.U rather than a doctor from the patient's original care team?
14. What significance do you attach to nurses saying they are 'not happy' with the patient, when according to the monitors, etc., the patient is fine?

15. What do feel are the main dilemmas facing ITU staff?
16. Do some sorts of deaths upset staff more than others?
17. How do patients' relatives cope with what is arguably the very dramatic form of intervention represented by I.T.U.? How does the unit seek to help them to cope? Do you think the ITU carries particular strains for patients' relatives - what sort of thing? Brain death?
18. How closely are patients' relatives kept informed of the condition of the patient?
19. What is your idea of an 'acceptable death'? (would you make a distinction between: in the Unit and in the wider society?)
20. Had you ever been present at a death before becoming a Doctor?
21. How do you feel being a Doctor has modified any 'commonsense' view of death you held before qualifying and practicing in this profession? Has your association with ITU caused you to modify this view further?
22. How do you see ITU's developing in the future?
23. What are the main frustrations and satisfactions of ITU?

APPENDIX I

DOCTORS

1. Can you tell me a little bit about your medical background, what is your specialism, etc. What attracted you to that particular specialism/or if still training: what do you intend to specialise in and why?
2. How much contact do you generally have with ITU?
3. Have you worked on other Units, how do they compare?
4. Who decides which of your patients should be admitted to ITU? What criteria are involved in this selection?
5. With what sort of information do you rely on ITU nurses to supply you?
6. Sometimes nurses seem to say they are 'not happy' with a patient, when for example, the monitor readings indicate the patient is fine, what significance do you attach to this?
7. Under what circumstances do you have to be summoned to ITU to see one of your patients - are certain parameters set for calling you?
8. What do you think are the main frustrations and satisfactions of intensive therapy units?
9. How often do you usually visit your patients when they are on I.T.U.?
Do you still manage to keep some contact with the patients' relatives once the patient is on I.T.U.?
10. Do you feel that patients' relatives react differently in any way if a patient dies on ITU rather than on the Ward - it is a particularly crisis-ridden, dramatic and technological setting, after all, isn't it?
11. 'Brain death' - how do staff cope? How do patients' relatives cope? How is it possible to help them cope with this situation?
12. What is your idea of an 'acceptable' death? (Would you make any distinction between the unit and the rest of society?)
13. When you decide to withdraw active support from a patient, what factors are taken into account and who is involved in the decision? Who is responsible for communicating this decision to the patient's relatives?
14. Had you ever been present at a death before you became a Doctor?
15. How/do you feel being a Doctor has modified any 'commonsense' view of death you held before qualifying and practising in this profession? Has your association with ITU caused you to modify this view further?

16. Do you think there are any ways in which ITU's could be improved?

17. Will you continue to have a major involvement with ITU
(Anaesthetists)
throughout your career?

APPENDIX I ITU NURSES

1. What attracted you to the nursing profession in the first place?
2. How did you become involved in ITU nursing - what attracted you ?
3. How is ITU viewed, do you think, by 'the rest of the Hospital'?
4. How long have you been an ITU nurse?
5. Have you taken the special ITU qualification - what does this involve?
(If a Student Nurse doing a placement on ITU - what do you think of it - would you want to make it your specialist area? Why/Why not?)
6. What are your main duties as a nurse on ITU
7. Can you describe your last day on duty (or the duties you have carried-out today - if towards the end of a shift - pick- up points)?
8. Have there been any changes in ITU's and ITU nursing during your time in such Units?
9. Does practice vary much in different Units? (Worked on others?)
10. In what circumstances do you have to refer to a doctor - what happens if one is not immediately available?
11. What are the main items of technology that you are involved in using on ITU?
12. How do you think the patients' relatives view the technology?
13. Who decides what technology is installed? Who is consulted? Who decides how it is used once installed?
14. How much do you rely on your traditional basic nursing skills and how much on the technology? What happens if these are in conflict, for e.g. what if the patients breathing and complexion colour look O.K. but the monitor or blood gas result tell you something different?
15. When it is decided to withdraw active support from a patient, are the nursing staff asked their view of the matter?
16. Can you get close to your patients, given the lack of consciousness of many of them? How do you achieve this? Is it necessary? Do you get closer to some patients than others, what does this depend on?
17. How is it decided how deeply to sedate a patient; what factors have to be considered?
18. Some ITU nurses have mentioned to me the phenomenon of 'monitor watching' do you think this is a very significant experience for patients' relatives?

19. How closely are patients' relatives kept informed of the condition of the patient?
20. How much responsibility do you have for preparing patients' relatives for the likelihood of particular patients not surviving?
21. Have you nursed dying and critically ill patients on an 'ordinary' ward? Is this a different experience for the nurse from 'death' on an ITU?
Is it a different experience of death for the relatives of the patient?
Is there a difference in reaction?
22. Are there particular strains for relatives do you think in having a relative seriously ill or dying on an ITU as compared to other parts of the hospital where there is perhaps less technology and less emergency intervention - it is a very crisis ridden environment isn't it?
23. What proportion of ITU patients die? How do you cope with this?
24. Do some deaths upset you more than others - what does this depend on?
25. What do you consider to be an 'acceptable death'? (would you make a distinction in this respect between the Unit and the wider society?)
i.e. features of an 'acceptable death'?
26. 'Brain Death' - how do you cope - how do you help relatives to cope?
27. Had you ever been present at a death before becoming a nurse? Has nursing changed your attitude to death and in particular has ITU nursing changed your attitude to death in any way?
28. Do you think that there is anything about ITU that could be improved, from the patient's point of view, from the relatives point of view?
29. What about the nurses - is there an I.T.U. nurse support group at this hospital? If 'yes': do you attend it? Do you find it useful? If 'no': do you think it would be helpful for such a group to exist? Where do you get your support from?
30. What do you feel are the main dilemmas facing ITU staff?
31. What do you like best about working on I.T.U.? What is the worst aspect?
32. Would you like to see the role of the I.T.U. nurse extended in any way?
33. Do you think you will continue to work in I.T.U.?

APPENDIX I ITU - RELATIVES

1. Occupation? Occupation of patient? Age of patient?
2. How long was your ----- in Intensive Care?
3. How did your ----- come to be a patient in ITU?
4. Can you tell me a bit about how you felt when you first visited your ----- in Intensive Care? Did your feelings about the situation change over time? Were the staff able to prepare you in any way for your first sight of ----- in Intensive Care?
5. Where you able to stay with them overnight?
6. Did you feel you were able to provide any of their care?
7. Was your relative actually conscious for any of the time they spent on ITU?
8. How did you spend your time with them during visits to the Unit?
9. How did you feel about the staff?
10. How did you feel about the equipment? (prompt: monitors, respirator)
11. Did you have any contact with the Unit after ----- was discharged/died?
12. Do you think the experience could have been made less painful in any way?
13. What did you find to be the worst part of the experience of having a relative in an Intensive Care Unit? Were there any aspects in which you took comfort?
- (14. (Where Death occurred): Were there particular things you had to reconcile yourself to because ----- died in Intensive Care?)
15. Did you feel the staff helped to prepare you, as far as reasonably possible, for events as they occurred while your ----- was on the Unit?
16. How easy was it to get information about what was happening? How far did you know the reasons for certain courses of action being taken? (If actions were not explained at the time, were they explained afterwards?)
Did you feel fully informed and consulted about your ----- treatment?
17. Were you given some idea what the various machines on I.T.U. did?

18. Had you any image of what ITU looked like before ----- was admitted? (Where 'yes': on what was this image based? Was this view change after your visits to the unit?)

APPENDIX I CONSULTANTS, DOCTORS - OBSTETRICS

1. Can I start by asking you a bit about your own background in medicine? How did you come to decide on your particular Specialism?
2. How would you describe your role in this Hospital?
3. Who is responsible for deciding what equipment and technology is available on the Labour Ward?
4. Who decides local policy around the use of obstetrics technology? (Individual Consultants, Region?, DHSS? Who?)
5. Does the Royal College of Obstetricians have any input into the use of obstetrics technology, guidelines, etc.?
6. What should be the role of technology in childbirth?
7. Who decides what technology is used during birth (including specifically electronic fetal monitors)? What sort of factors would inform that decision?
8. Are there any procedures involving technology that you consider crucial to the safe management of a labour that at that point appears to be progressing 'normally'?
9. Under what circumstances during a woman's labour would you expect Doctors attending a patient for whom you are responsible to refer to you?
10. More generally, how do you view your role in relation to the pregnant woman?
11. How do you view the role of the midwife? What should their contribution be?
12. Do you think childbirth has improved from the woman's point of view over recent years? (Why? How?) How could it be improved further? How could this be achieved? Are there limiting factors to future improvement - what are they?
13. How much choice does the pregnant woman/labouring woman have in terms of the care/management she receives? What are the limits on this?
14. How would they describe labour to a woman who has never had a baby?
15. How would you seek to reassure a woman who is fearful of labour and childbirth?
16. What's your idea of 'a good birth'? 'A good labour'?
17. What are your views on pain relief in labour?

18. How do you feel about the presence of birth partners? What role should they play? Could/should this role be expanded?

19. How do you see obstetrics technology developing in the future?

20. Do you have children yourself? Were you at their births? As births in which you were closely emotionally involved, did these cause you to adapt any of your previously held views about the birth process?
(Man) (As for Midwives if woman)

21. Had you ever been present at a birth before you became a Doctor?

22. Ask them what they knew about/felt about birth before they became a doctor and what this was based on. How do they feel their training has modified this view?

(Can I just finish by asking you a bit about the profession of Obstetrics?)

23. Is the profession of obstetrics changing? Has it changed during your time in the profession?

24. What are the main dilemmas facing the Obstetrician?

25. What are the main satisfactions for you in being an Obstetrician?

APPENDIX I

MIDWIVES

1. What made you become a midwife?
2. What were your hopes when you became a midwife?
3. Have these hopes been fulfilled.
4. How long have you been a midwife?
5. What do you see as the role of the Midwife?
6. Do you think the profession is changing?
7. Midwives work for all firms when they are on delivery? Does practice vary much from one Consultant firm to another? From one Doctor to another?
8. Have you usually met a woman before you attend the birth of her baby? If not, how do you 'get close to her' and, indeed, is this necessary?
9. Can you describe in some detail the last labour you attended to give me some idea of the detailed work tasks you performed? (pick up on points as they go along and use as a way in to query procedures, accountability, sphere of competence, rationales, etc.)
10. In what circumstances do you have to refer to a Doctor?
11. How closely do you work with the doctors? What about the consultants?
12. Which items of technology does the midwife routinely use on the Delivery Suite ie technology that is operated largely by the midwife rather than the doctor? Who uses the results produced by such technology?
13. How much do you rely on your traditional basic nursing skills and how much on obstetrics technology? What happens if these two things are in conflict, for example, if by laying your hand on the labouring woman's abdomen you feel that the contractions are becoming very strong but 'the trace' suggests differently, on which basis do you proceed?
14. What is the policy on monitoring in this unit? Is there any variation in monitoring policy between different Consultants?
15. If a woman expresses no preference, e.g. for/against electronic foetal monitoring what happens?
16. What do you see as your role in relation to the labouring woman?
17. Do you think women's experience of childbirth has improved over the years? Why do you think this is? How has this come about?

18. How would you describe labour to a woman who has never had a baby?
19. How do you seek to reassure a woman who is fearful of labour and childbirth?
20. Do you get more involved (emotionally) in some births than others? What does this depend on?
21. How do you feel about the presence of birth partners? What should be their role? Can this role be extended?
22. Who decides what pain relief is necessary during labour? How do you handle this area with the labouring woman and her birth partner (if present)?
23. Does the woman have a choice over how her labour is managed? What are the constraints on this?
24. What information is available in this hospital to the pregnant woman concerning the birth process and how it will be managed? Is this given automatically or does the patient have to specifically request it?
25. What's your idea of what constitutes a 'good birth'? A 'good labour'?
26. Could the childbirth experience be improved? In what ways? Are there limiting factors?
27. Is there a possibility of extending the role of the midwife - how could this develop?
28. What are the main dilemmas facing the midwife?
29. Do they have children?
If 'yes': What sort of labour(s)/birth(s) did you have? Did it change your view of birth or the practices you adopt around birth?
If 'no': What sort of birth would you like?
30. Had you ever been present at a birth before you became a midwife?
31. Can you remember what you knew and felt about birth before you became a midwife - what this was based on, and how your professional training has modified this view?
32. Just as a 'background' question, I'm asking respondents whether they know anything about their own birth?
33. What are the characteristics of the type of birth you enjoy most?

APPENDIX I

WOMEN GIVING BIRTH

1. Age?
2. Other children?
3. Do you want a boy or a girl?
4. Occupation or previous occupation?
5. How did you come to be at this hospital? How did you choose your Consultant? Do you know or have you heard anything about the way that particular Consultant tends to manage her/his patients?
6. How is your pregnancy progressing, any problems, etc. How you feel about the hospital, staff, Consultant, etc.
7. Have the hospital asked you what you want to do in labour? Have you been asked if you want to draw up a birth plan? Are you planning to do this? Can I ask you what you want in it?
8. Have you toured the delivery suite? How do you feel about it?
9. What do you hope to experience from the birth?
10. What do you think labour (or this labour if not first pregnancy) will be like? What's this view based on? What would your ideal labour be like?
11. What were your other labours like (if appropriate). Why do you think it (they) turned out the way it (they) did?
12. What sort of factors do you think will affect the sort of labour you have?
13. How are you preparing for the birth?
14. Will your husband, partner or someone 'close' to you be with you at the birth? How do you want this person to help you in the birth?
15. How do you want the midwife to help you at the birth? What about the Doctor, what sort of help do you see him/her giving?
16. How do you think you will deal with the pain?
17. Can I ask you if there's anything about the forthcoming birth that particularly worries you?
18. Is there anything about the forthcoming birth that you're particularly looking forward to?
19. Do you think childbirth has improved for women over the years? If yes: How? Why? If no: Why?

20. Have you ever been present at a birth or with a woman in labour? If so, what was your relationship to the woman giving birth and how did you feel about the experience? Did it change any view you held about labour/birth before this?

21. Do you know anything about your own birth?

*If they do not mention monitoring during the course of the interview, ask what they feel about electronic monitoring techniques.

Later on - re-establish contact again before the birth and check how things are progressing and that they are still happy for me to attend the birth. Ask how they feel about the environment in which you will give birth (if they have seen it) i.e. the delivery suite. Whether have any more thoughts on the delivery now they are nearer to it? How are they now preparing for the birth? How they feel about the hospital after subsequent visits there. What do you hope to experience from the birth? Have they thought any more about dealing with pain or how they want to delivery (birth position etc.).

After the Birth:-

1. Could you describe in some detail your labour and birth (including any images and sensory data).

2. Likes/dislikes - Pleasures/disappointments

3. Helpful/Unhelpful events, attitudes, equipment

4. Anything you would have liked to have been different?

5. What degree of pain relief was necessary? How was this issue handled and what did you feel about it?

6. Ask about why they felt various decisions were made in the course of the labour and how they felt about these. How they felt at the point of birth and immediately afterwards?

7. Did anything surprise you about what happened?

8. Did you feel you were consulted enough during the labour and birth, sufficient explanations given for courses of action, etc.?

9. How would you sum up the experience of the birth of your ----- child?

10. Has this birth changed your attitude towards childbirth?

11. How would you describe childbirth, in the light of your own experience?

12. Have you talked much about your 'birth experience' to your friends? What's been the reaction/ level of interest?

13. Do you think you'll have another baby?

APPENDIX II

Interviews conducted:

40 Intensive Care Nurses (20 at each Unit, representing approximately half of the establishment of Intensive Care nursing staff at each site).

10 ITU Doctors (Half of whom were Intensive Care Consultants, 6 interviews at one Unit, four at the other - this represented interviewing the majority of doctors with a contracted commitment to Intensive Care at both establishments).

30 Intensive Care ex-patient Relatives (20 at one site [to mirror the number of nurses interviewed] and 10 at the other. At this point, time constraints were making themselves felt and I already felt that I had considerable data from the ex-patient relative point of view from the first site).

20 Midwives (This represented approximately half of the total number of midwives working for the Unit - given that some worked varying amounts of part-time hours - the figure also mirrors the number of Intensive Care nurse interviews).

4 Consultant Obstetricians (This represents half of the Consultant Obstetricians at the hospital)

20 Maternity Patients (This was intended to mirror the Intensive Care ex-patient relative sample. Since I was conducting multiple interviews and over a period of time, 30 women were initially selected to allow for a one third drop-out rate due to my logistical difficulties in recontacting some women and the fact that it had been agreed with the hospital that should women develop severe problems during the pregnancy, for example, severe pre-eclampsia, diabetes, known fetal abnormality, they would cease to take part in the study).

APPENDIX III Selection of Pregnant Women - criteria

Age: 18 years and over

Primigravida or multigravida (first-time mothers or mothers having second or subsequent babies).

First interview: at antenatal visit - early third trimester. + one other contact interview.

Exclude at first antenatal visit:

- Known fetal abnormalities
- Known Caesarian Sections
- Known maternal medical conditions (eg heart disease, diabetes etc)
- Ethnic Minority women

Don't follow up:

- if deliver before 36/40 weeks
- if baby abnormal or > SCBU (Neo-natal Intensive Care)
- severe pre-eclampsia

Post natal interview at their home three weeks following delivery.

APPENDIX IV

Consent Form - Obstetrics

Title: Perceptions and Expectations around Labour, Birth and Obstetric Technology

Purpose of study and brief description of procedures. (Not a legal explanation but a simple statement).

The purpose of this study is to talk to you and to ask you a few questions about your forthcoming birth and what you expect it to be like.

I should like to talk to you twice before the birth (at the Antenatal Clinic) and once about three weeks after the birth (at your own home).

At our meeting after the birth, I would like you to tell me about your birth and what you felt about it. Again, I would ask you a few specific questions about your labour and birth.

I am hoping that some of you will allow me to be present when you are giving birth. (I have been present at births before and have two children of my own). If you feel able to share your birth with me, I should be there simply as an observer and would not ask you any questions at all at that time. If you do not feel able to have me at your birth, I quite understand and hope that you will still take part in my study.

I am willing for Janet Harvey to be present during my forthcoming labour and birth. I understand that should I at any time wish her to leave, that she will do so without any need for explanation.

.
Signed

.
Date

*I fully understand what is involved in taking part in this study. Any questions I have about the study, or my participation in it, have been answered to my satisfaction. If I decide to withdraw I understand that it will not affect my future treatment or care.

Signed

Date

*(This section was required in this format by the Research Ethical Committee).

APPENDIX IV

INTENSIVE CARE TECHNOLOGY STUDY

This piece of research is part of a study being carried out at Warwick University looking at high-technology medical situations.

The purpose of this study is to talk to you and to ask you a few questions* about the time you spent visiting the Intensive Care Unit at _____.

I would meet with you on only one occasion, when I would like to hear about your experiences and feelings about your relative's stay on the Intensive Care Unit.

Those taking part will not be identified in any way in any findings produced.

Please sign if you wish to take part:.....

* If you agree but later find at our meeting that there are questions you would prefer not to answer, please just say so (no explanation would be necessary).

APPENDIX V

Selection Criteria - ITU ex-patient relatives

The patient to whom the interviewee is related must:

i) have spent at least 24 hours on ITU (otherwise relatives may not have visited).

ii) have received treatment, not simply electronic monitoring (this implies that they will have received full-technological support and intervention).

The patient's close relative for interviewing purposes was taken to be that relative who was shown as the 'next-of-kin' in the hospital records. In a very few cases this contact referred me to another relative who had been more involved in visits to the Unit.

APPENDIX VI

Dear _____,

I am a Researcher in the Sociology Department at Warwick University and at present I am studying Intensive Care Units.

One of the hospitals helping me with this research is the _____ and since I understand that your husband was a patient in the Intensive Care Unit there recently, I wondered whether I could arrange to talk to you about this.

I would need to meet with you for about half an hour, either at _____ or in your own home, when I would like to hear about your experiences concerning your husband's stay on the Intensive Care Unit, for example, how easy was it for you to get information about his condition and treatment on the Unit?

I will telephone in a few days' time to see whether you are willing to participate and to answer any questions you *might have about the* study. Please do not feel at all obliged to take part if you would prefer not to.

If you do agree, it would be necessary for me to confirm with _____ (the patient) that he has no objections to this. Those involved in the research will not be identified in any way in the findings produced.

Finally, may I say, that I hope you do feel able to take part in this study, as we hope its conclusions will prove of some benefit to other relatives of Intensive Care patients in the future.

Yours sincerely,

JANET HARVEY.

APPENDIX VI No 'phone number

Dear _____,

I am a Researcher in the Sociology Department at Warwick University and at present I am studying Intensive Care Units.

One of the hospitals helping me with this research is the _____ Hospital and since I understand that your _____ was a patient in the Intensive Care Unit there recently, I wondered whether I could arrange to talk to you about this.

I would need to meet with you for about half an hour, either at the _____ Hospital or in your own home, when I would like to hear about your experiences concerning your _____ stay on the Intensive Care Unit, for example, how easy was it for you to get information about his (her) condition and treatment on the Unit?

If you would consider taking part please write to me or telephone me suggesting a time, date and place to meet. I would be glad at that time to answer any questions you might have about the study.

If you do agree, it would be necessary for me to confirm with _____ (the patient) that he (she) has no objections to this. Those involved in the research will not be indentified in any way in the findings produced.

Finally, may I say, that I hope you do feel able to take part in this study, as we hope its conclusions will prove of some benefit to other relatives of Intensive Care patients in the future.

Yours sincerely,

JANET HARVEY.

APPENDIX VII

Dear

I am a Researcher in the Sociology Department at Warwick University and at present I am studying Intensive Care Units.

One of the hospitals helping me with this research is _____ . I understand that your _____ was a patient in the Intensive Care Unit there recently, and regretfully passed away on that Unit.

Since it is our hope that the findings of this study will prove of some benefit to Intensive Care relatives in the future, I am writing to ask you whether you would feel able to discuss with me your experience of the Intensive Care Unit. I realise that this may be too painful to consider and if you would prefer not to, I think this is wholly understandable. If, however, you do feel this would be possible, I would need to meet with you for about half an hour, either at _____ or in your own home. The sorts of questions that I would like to discuss with you are: how easy was it for you to get information about your husband's condition and treatment on the Unit?, how far you feel the staff prepared you for the eventual outcome?

I will telephone in a few days' time to see whether you feel able to participate and to answer any questions you might have about the study. Please do not feel at all obliged to take part if you would prefer not to.

I would emphasise that those involved in the research will not be identified in any way in the findings produced.

Finally, may I say, that I hope that you do not object to my writing to you in this way and that this letter has not in any way added to your distress. We did consider the situation very carefully before contacting bereaved relatives and if you feel we took the wrong decision in contacting you please accept our sincere apologies.

Yours sincerely,

JANET HARVEY.

APPENDIX VIII

Types of Pain Relief available at the Obstetric Hospital

Transcutaneous Nerve Stimulation (T.N.S. or TENS) - TENS involves the application of pulsed electrical energy into pads placed strategically on the woman's back. Electrical energy is transmitted to the nerves that supply the uterus, cervix and pelvic floor. Women are able to mobilize whilst using TENS since it is operated by the woman herself using a lightweight portable unit which she carries in her hand. TENS: a) stimulates the production of 'endorphins' the body's own natural analgesic, b) it helps to block the painful stimuli being relayed by the nervous system from the receptors in the uterus. It also provides a counter-stimulus to that of the uterine contractions. During contractions the labouring woman presses the 'boost' button to intensify the pulsating frequency. It is possible to 'boost' continuously during the later stages of labour. TENS can be used in conjunction with Pethidine or Entonox or with other 'coping skills' learned antenatally. It is non-invasive and has no known side-effects on mother or baby.

Entonox (Gas and Air) - Entonox consists of two gases: 50% nitrous oxide and 50% oxygen. It is self-administered by the mother who breathes in gas through a mouthpiece or face mask to co-incide with the uterine contractions. Entonox will cross the placenta but has no known effect on the baby, although the baby may benefit from the higher concentration of oxygen it contains. Some mothers tend to hyperventilate (overbreathe) using Entonox, which may produce a tingling sensation, usually in the fingers. Entonox remains in the system only while it is being breathed and the effect wears-off approximately one minute after use ceases.

Pethidine - Pethidine is a synthetic narcotic analgesic derived from morphine (a narcotic is a drug which induces drowsiness or sleep, an analgesic is a drug which relieves pain without causing unconsciousness). It is usually administered by intramuscular injection. Pethidine reduces the mother's awareness of pain, but may cause drowsiness or nausea and she may become less able to be actively involved in the labour. It may slow down the labour and, since it crosses the placenta, it may depress the baby's heart rate and breathing. If Pethidine is given too near to the delivery (preferably not more than 2 hours, some literature argues 4 hours before delivery), the baby may be born seriously sedated and will need to be given an antidote drug such as Naloxone. Babies whose breathing is not quickly and satisfactorily established will need to be intubated (this happened to a baby during a birth I attended). The baby may have to be taken to a Neonatal Intensive Care Unit.

Epidural anaesthesia (lumbar epidural block, extradural or peridural anaesthesia) - an anaesthetic drug is injected into the space surrounding the spinal cord, the epidural space. This blocks transmission of messages to the brain about pain occurring in these and associated nerves. The insertion of an epidural is a sterile procedure which takes between 10 and 20 minutes to perform. Following an injection of local anaesthetic, a long needle is inserted into the

ligaments between the vertebrae. A syringe containing saline or air is attached. The needle is then pushed into the epidural space. A fine plastic tube (catheter) is then inserted and the needle withdrawn. The catheter is taped to the back and over the woman's shoulder. Doses and top-up doses are fed through this mechanism. A woman in labour may be offered an epidural either for pain relief or when the method of delivery (e.g. forceps or Caesarean section) requires the removal of all painful sensation or in the presence of certain 'indications', for example, following inco-ordinate uterine action, hypertension (high blood pressure), cardiac or respiratory disease, diabetes, twin births, breech and premature births.. Lumbar epidural anaesthesia is the form of block most used in Britain. It blocks the nerves in the lower thoracic and lumbar regions, supressing pain from the uterus, cervix, vagine and perineum. The mother remains conscious and painfree or largely-painfree (depending how well the technique works in the individual case). She does, however, loose physical control over the labour being paralysed from the waist down (obviously she will be immobile). She will need an intravenous infusion (drip) set-up to infuse fluid should she become hypotensive (abnormally low blood pressure) due to the procedure. Hypotension affects both mother and baby when it occurs, since if the mother's blood pressure falls and baby's heart rate may become depressed (continuous electronic fetal monitoring usually accompanies this procedure for this reason). This effect may be worsened if intravenous oxytocin is used to augment the labour causing more frequent and powerful constriction of the placenta (Lieberman, et al, 1979) (This may well happen, since an epidural may slow down the labour [Rosen, 1977]). Bladder catheterisation is more likely, since the woman will have no urge or ability to pass urine. Epidural analgesia prevents reflex stimulation of the perineum and reduces or eliminates the mother's urge to push in second stage. It also causes the pelvic floor muscles to become flaccid so that they do not guide and rotate the baby's head towards the correct position for birth, natural rotation and decent is, therefore, inhibited and the need for forceps assistance is greatly increased, i.e. 70% of women having their first baby and 40% having subsequent babies were delivered by forceps (Hoult, et al, 1977, Studd, et al, 1980). Goodfellow, et al (1983) argues that an effective epidural also inhibits the stimulation of the pelvic autonomic nerves as the birth canal is distended, reducing the natural release of oxytocin, thereby reducing the force of uterine contractions.

Other possible adverse effects of epidural include: increased risk of thrombosis in the leg and pelvic veins (Waldron, 1983), increased blood loss after delivery (Lieberman, et al, 1979), bladder infections following catheterisation, accidental lumbar puncture (1%-2% Rosen, 1977, Moir, 1982), accidental subarachnoid injection (0.1% Moir, 1982). There may also be very rare toxic reactions to the local anaesthetic or very rare post-delivery neurological complications. Other research indicates a higher incidence of jaundice in babies whose mother have been given epidural blocks (Lewis and Friedman, 1979) and trauma resulting from the higher incidence of forceps deliveries (Rosen, 1977).

APPENDIX IX

The following depicts in aggregate terms the 'aspirations' and outcomes for the twenty pregnant women in the study in relation to monitoring, pain relief, and use of Syntocinon (since these are all inter-related:

		<u>Type of Delivery</u>
'Normal Delivery'	11	
Forceps	7	
Caesarian Section*	2	
Total	20	(12 first-time mothers)

2 Accelerated

2 Induced

	<u>Type of Pain Relief*</u>	<u>Aspirations</u>	
No artificial pain relief	0		3
TENS	3		3
Gas and Air	5		5
Pethedine	3		2
Epidural	11		4
General Anaesthetic	1	'Don't know'	5
		No record	1
Total	20		20

(3 TENS technique used in conjunction with another method)

*Where more than one method of pain relief was used the 'strongest' method employed is recorded.

Definitely not wanting
an epidural
8

	<u>Type of Monitoring</u>	<u>Aspirations</u>	
External Fetal Monitoring	2		9
Internal Fetal Monitoring	17		3*
No record	1	'Don't know'	5
Total	20		20

*These were three women who felt that internal E. F. M. had 'saved' their babies in previous births.

APPENDIX X The 'Exception' to the 'Rule'

A very few Midwives were able to communicate something of a 'feeling' of labour (given that, a highly medically managed labour incorporating an epidural will not 'feel' like this), for example:

"To start with you will feel your tummy tightening or maybe your back. Initially it's not painful, 'though you might feel uncomfortable. . . and it's nothing that you could ever explain. And as time goes on you'll find those tightenings getting stronger, then it'll actually start getting painful. I might say uncomfortable, but, yes, you've got to introduce 'pain'. So they start off, but later on when they become painful you're progressing, usually, and you progress by the dilation of the cervix and the baby coming down. And you're going to feel pressure on the back passage. Some women get backache. And these are all signs of progress. . . Now, it does get painful, but you mustn't get disheartened. As long as you know it's painful, you're expecting the pain. Then it's a lot easier to go along with the pain. And you'll get to a stage where it doesn't necessarily get more painful. Because ladies have this feeling that labour gets so painful that there's nothing else you can do. You either want to die or everything else. But it will get to a stage where it doesn't get more painful but the sort of pain you get will change. And with the change, you will get this sort of sensation, the bearing down thing, like you want to go to the toilet. Now most people are frightened by that. They think 'Oh my God, I'm going to pooh myself and it's going to be embarrassing'. But you will get that sort of sensation. There's nothing wrong with it. It's just that when baby's head comes down it presses on your back passage and that's to stimulate you, so that you get the idea of pushing. Now when you actually start pushing and the baby's head comes down further, you get the feeling that you're going to rip open. You must never be frightened of that. That's just your muscles stretching but, the harder you push the quicker that feeling's going to go away because once baby's head's out, you're never going to experience that again. . . ." (Senior Sister Midwife)

APPENDIX XI

'Birth Stories'

These extracts of women's birth accounts were recorded verbatim in their homes, approximately three weeks after the birth. They tell in their own words something of the women experiences:

(TENS, Gas and Air, Normal Delivery, first baby) ". . . it wasn't that big an ordeal, as you hear about, it wasn't for me anyway. I'm much more positive about it now. . . It wasn't that painful, I just felt uncomfortable. . . the whole 9 months I'd felt so poorly and faint. . . I felt I'd never have another baby, never, but as soon as I had him, I thought 'I'd go through that again'. . . I was so surprised how overwhelmed I felt afterwards about him. I couldn't believe how I would feel about him. . . I didn't sleep at all that night. I just lay thinking about him and thinking how wonderful it is."

(Gas and Air, normal delivery, first baby, aged 18 years) "Not very painful. A wonderful experience and also something that I wouldn't mind doing again. . . I enjoyed it, strangely enough. It's all turned out very different from what I'd expected. I didn't find it painful. . . painless, very enjoyable and I'd do it again. . . it was really easy, really easy. . . I used to hear a lot of girls saying 'I'm never going to go through that again' but I actually turned round and said 'I wouldn't mind going through it again' because I really enjoyed it. It was a great experience. And afterwards I just fell in love with her, totally, as soon as I saw her. I just fell in love with her."

(Pethedine, Normal Delivery - first baby) "How you go through it and how it all happens, I just think it's one of the, I don't know, I can't think of words to describe it. The most indescribable experience that anyone could have I'm sure. I've never experienced anything like it. . . I think that any fear is just outweighed by everything else that is going on. Despair when she told me I had another 12 hours to go. . . . They came to examine me and I still hadn't changed, I was still only 2 centimetres dilated. I was absolutely so shocked. I thought, I've been through 10 hours of this and I'd really tried to keep calm and I was getting really strong contractions and I thought I can't go on much longer. I was just devastated when they said that. . . I think I'd got all these visions of me choosing what position I would be in when I gave birth, you know, but honestly I didn't care what position I was in when I had the baby. . . I just wanted to get it over and done with, you can't do anything like that when you're in absolute agony, just pushing for all you're worth. . . I know I was awfully worried, the thing that stuck in my mind and almost outweighed the pain was the embarrassment of emptying my bowels, you know what I mean, when I was pushing. And I all I could say to John (birth partner, father of baby) was 'I'm going to do a poo, I'm pushing too hard'. And it almost outweighed the pain. I was so embarrassed by it, I remember thinking that that was foremost in my mind. . . Once his head came out, how easily all the rest came out. That just shocked me, the head took a lot of energy and effort but all of a sudden the rest just went 'blub'. . . It's been happening for

thousands of years and everyone goes through it. . . . or virtually everyone, all the people you know who've got families must have gone through it and yet you feel very special because you've been through it. . . I think it's so hard to explain to anyone, even having gone through it, you can't explain it either. . . until you've been through it, it don't think you can imagine it. . . I get really excited everytime I talk about it. I relive it all. . . I think it was worse than I imagined and better than I imagined. At the time it was the most excruciating pain and I thought I couldn't go on any more. It was far worse than anything I had ever experienced. But then once it had gone, within seconds of him being born it was wonderful and not half as bad as I'd imagined it was going to be. . . I just think it's the strangest experience I'll ever have, perhaps the worst but also the best."

(Gas and air, normal delivery - first baby) ". . . you're just totally gone from the planet. You're totally out of control your body's gone somewhere else. You can't do anything about it. I felt I was going to die, that's it! Gone! . . . I just felt frightened at second stage because I think that was pain (her emphasis). The fact that you've lost control of your body, I mean, that was what I was frightened of. . . It was rapid. Rapid. Painful. But pleasurable. It was exciting. . . I felt once the baby was born I'd want to have her and I did want her. But I was still on another planet. It did take me quite a while to come down and realise she was mine. I mean, I held her straight away but they could have given me a doll. . . But I don't think I'll ever forget the feeling just before you start to push. The baby's head comes down. . . I'll never forget that one, but then, I wouldn't know how to describe it. I think that's the point where your soul leaves you. For a minute! (laughs)" (this woman is also a Midwife)

(Pethedine and Gas and Air, 'Normal' Delivery - first baby - working class woman, aged 18 years - youngest woman in the sample) ". . . they rushed me to the Admission Room and gave me an internal. And I'd actually dilated to 7 centimetres. I was shocked because I thought they were going to tell me I'd only dilated 1 centimetre. . . they gave me 'the gas'. . . it really made me giggle. I was really breathing it in heavily because they were quite strong. And after that they burst my waters and after that they were even stronger. And I'd dilated then the whole 10 centimetres. The birth was very, very easy. . . I would have liked to have touched her as she was coming out and I would have like to have watched her. I wish now that I'd watched her. . . (she didn't feel she wanted to at the time) and they were saying 'Do you want to touch the head?' and I was going 'no I don't!'. I was just wanting to get her out and that was all I wanted to do. (This sentiment was echoed in several of the accounts around touching or seeing the baby before it was fully born.) But I wish now I'd just took the time and touched her head because I would have liked to have known what it felt like when it was coming out and I would have liked to have seen it. . . And I could feel her head slipping back in and coming down when I was pushing. And I'd have to start pushing again and I'd make her come even further. It was a lovely feeling. The best part of it, I thought, was after her head came out. . . to feel her body, at the side of my vagina. It was a lovely feeling. I really loved that feeling. I can't describe it, it was like something soothing and warm coming out, you know, it was a

really lovely feeling. That was the best part I thought, when the head had come out and the body slipping out, I loved that feeling. . . I was surprized about everything because it was my first time. . . it all made sense afterwards. . . when people used to describe their births to me, I used to try and picture it in my head, but I couldn't, but afterwards I could make sense of what they were talking about".

(Gas and Air late first stage, 'Normal Delivery' - second baby) ". . . I felt the head and she (the Midwife) said 'the head's through'. And I could actually feel her (Midwife) working round the shoulders and she said 'the baby's actually coming now, can you look?' and Alan (birth partner and father of the baby) put me forward a bit more and I didn't see the head come through but I actually saw from the neck, I saw the rest of her come. And she (Midwife) brought her straight up and put her on my chest. . . It was so quick I couldn't believe it. There was pain obviously at one point but there was so little of it. . . and I thought 'I wouldn't mind doing that again!'. . . As the contractions went I felt quite good but when they came back I though 'God I'm an idiot' but actually I was feeling I was enjoying it. . . the sensation when she slithered out was very good because I was seeing her come and the breast feeding was great, it was almost a physical pain, seeing her suck. . . that sucking sound was the loveliest noise I've ever heard."

Some women whilst, not actually identifying the experience as enjoyable, nevertheless, remained positive about the experience overall:

(Entenox, Pethedine, Forceps for fetal distress in second stage - first baby) ". . . sort of surprizing in a way (this woman is middle class, aged 44 years). I suppose the absolute amazement. . . I just don't believe it. But she's there. I don't know. I just don't know. I can't think of words to describe it. It's like nothing I've ever encountered before really. It was very, very painful. I don't know whether it was an enjoyable experience but the end result is certainly worth having (laughs). I suppose you surprize yourself in a way, that you get through all this."

(Gas and Air, Epidural, Normal Delivery - Second Baby) ". . . you forget the pain and remember just the thrill of everything. . . I enjoyed my waters going and the excitement. . . we were really excited (she and her husband), we were laughing all the way to the hospital and I was laughing walking down to the labour ward. . . really, it was only when it went down-hill (anterior lip, she pushed against this, it became swollen, the birth was delayed and she was advised to have an Epidural). . . when I think back to when I had that urge (to push) earlier, I thought that was a lovely feeling. . . I mean, I'd just never, people had told me it was like going to the toilet and not being able to stop it but I don't think you can prepare anyone for how overwhelming that is. . . I should imagine it must make the delivery that much easier because your body has taken over from you, whereas I was having to do it for my body. (J.H. The difficulty of that urge is trying to resist it, as you had to try to do?) Yes, not going with it." (She delivered 'normally' but with an Epidural. She managed to push the baby out although: "I couldn't feel where I was pushing". Her first baby was a 'normal' delivery too but again with an Epidural fitted).

Others felt overall varying degrees of negativity towards the birth experience but saw it as a means to an end, while valuing the outcome (the baby), they expressed varying degrees of disappointment to horror about what they had felt and what had transpired during the labour:

(Induction, Pethedine, Gas and Air - First Baby) "I was quite surprised really, pleasantly surprized. I mean, it's bad but it wasn't as bad as I expected. . . It was very painful at the end, when the actual head comes out. I just kept thinking 'Oh God, I'm going to split open any minute'. . . I don't think I could say I really enjoyed any of it. . . I'm not going to say it's bad because it is, but it's worth it."

(Gas and Air late first stage, normal delivery [fetal distress registering on monitor] - second baby) "I was really worried, she was so blue. I kept saying, 'Is she alright?'. . . I don't think I enjoyed it, no. . . I went into hospital thinking I would have the baby in a few hours and they said 'it could be 24 hours'. I was disappointed. . . I think it's very, very painful and immediately afterwards you say 'never again' but within a short period you do forget and it all seems worth it, but it hurts"

(Epidural, Rotational forceps for fetal distress - first baby) "Oh my God it was horrible! Really horrible. . . when I was waiting for the epidural to take, they said 'Your mum can pop in if you like and have a chat'. And she said 'You're sitting there as if nothing's happening', and it is, it's a beautiful thing (an epidural) . . . Afterwards you couldn't feel your legs and everything, that was the annoying part"

(Induction, Epidural, forceps delivery for fetal distress) "Traumatic. I really can't think of a lot to say in its favour. I'll never have another one (baby). I don't know whether I'll change my mind. . . It was awful, the actual birth. I mean, Thomas is great but the actual birth was awful. I mean, I don't think my husband could quite believe how bad it was really. I don't know if it's just me because they say everyone has different kinds of pain thresholds and I kept thinking mine must be low. . . (She was induced for raised blood pressure. She was advised to have an Epidural to help keep her blood pressure down during labour and to counteract the more painful labour resulting from induction.) I thought it was horrendous but I'm glad they used all the technology, otherwise they wouldn't have known Thomas (the baby) was distressed." (Postnatal Interview)

(Pethedine, Epidural, Acceleration, forceps lift out for delay in second stage - Second baby) "It was terrible but it was still nice seeing her born, you know. . . I didn't know what to do (pushing). I couldn't feel the pushing. I hadn't got a clue what to do. It was terrible. . . When I had Adam, I thought 'gosh', that was a real big thing having a Caesarian. But this was even more real because I actually seen her born, which was really different to what I thought it would be actually. When I had Adam, I thought, I don't care that I didn't see him (Emergency Caesarian). He was there at the end and that was it. But it was more amazing this time seeing her born, seeing her straightaway. It was quite frightening but it was nice. . . I know what it's like now. I

really know. I like that because I really know what it's like now. It's a nice feeling, knowing."

(At patient's request: epidural within 30 minutes of reaching hospital [3 cms. dilation] forceps for delay in second stage.)

"I couldn't sleep at all. It was all just too much to sleep really. I mean, it was night-time and I could have slept really, my husband slept but I just couldn't sleep. They dimmed the lights but I just couldn't sleep (it seems she would have preferred to not acknowledge that anything was happening). . . When she was delivered that was the best thing. I don't know about the rest of it. . . you were always worried, you know, something can go wrong. It's always in the back of your mind. I wouldn't say I enjoyed it. It was O.K. . . . Afterwards was worst once the epidural wore off, that was absolutely awful. That was just dreadful. It was ten times worse than the birth. . . it was absolutely excruciating, it was absolutely awful." (The mother describes this as a 'nice birth' , "straightforward" and "nice staff").

(Postnatal interview, epidural, forceps delivery for fetal distress in second stage) "I was really scared because I thought second stage is going to be absolutely terrible and the epidural won't be able to cover it up. And I was just so scared about it and I couldn't stop shaking ('Marcain shakes' from epidural). But I did feel terrified. I don't know why. I did have this fear about actually having him. . . I was upset when they said I was 5 centimeters. I'd been through all that and I didn't want to do it and I would have wanted the epidural straightaway. . . I'd just say it was painful and that's the only thing, the overwhelming thing that I remember because most of it is a blur to me. I didn't feel a rush of emotion or anything. When they put him on my lap I just thought 'Oh go and take him away!' I was so tired and I couldn't even go to sleep when it was finished, I had to have stitches. I don't know whether it's me or not but I wouldn't describe it as a pleasurable experience at all, it was traumatic"

Some expressed strong ambiguities:

(epidural - which failed - remainder of labour without chemical pain relief, 'normal' delivery - first baby) "It was nothing like I thought it would be, nothing at all. I think it was worse because I thought that the Epidural, when it did work for half an hour, it was great. I thought I am going to have this all the way through, I'm not going to feel nothing. And then all of a sudden I could feel everything, it was terrible. . . (But) I can't wait to have another one (baby). It's that exciting when you go through it and then all the pain goes once they come out. It was really good. I can't wait to have me next one. It's very painful but I can't wait to go through it again. You can't explain it can you? The contractions I could cope with, they were painful but it's that they keep coming all the while. . . The worst part was getting the head out. That was the painfulist."

The essential ambiguity : "It's very painful but I can't wait to go through it again". A Sister Midwife commented in relation to the birth of her own baby: "I remember looking forward to it, dreading it. You look forward to it but you dread it. And you don't put it into perspective."